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A
Botanical Arrangement
OF ALL THE
VEGETABLES

Naturally growing in GREAT-BRITAIN.

V O L I.

Botanical Arrangement

OF ALL THE

VEGETABLES

Naturally growing in Great-Britain.

VOLUME I.

A
Botanical Arrangement
OF ALL THE
VEGETABLES

Naturally growing in GREAT BRITAIN.

WITH DESCRIPTIONS OF THE
GENERA and SPECIES,

According to the System of the celebrated LINNÆUS.

Being an Attempt to render them familiar to those who
are unacquainted with the LEARNED LANGUAGES.

Under each SPECIES are added,

The most remarkable VARIETIES, the Natural PLACES of
GROWTH, the DURATION, the TIME of FLOWERING, the
PECULIARITIES of STRUCTURE, the common *English* NAMES;
the NAMES of Gerard, Parkinson, Ray and Baubine.

The USES as MEDICINES, or as POISONS;
as FOOD for Men, for Brutes, and for Insects.

With their Applications in OECONOMY and in the ARTS.

WITH AN EASY

INTRODUCTION TO THE STUDY OF BOTANY.

SHEWING

The Method of investigating PLANTS, and Directions how
to Dry and Preserve SPECIMENS.

The whole Illustrated by COPPER PLATES and a copious GLOSSARY.

By WILLIAM WITHERING, M. D.

Ornari res ipsa negat, contenta doceri.

IN TWO VOLUMES.

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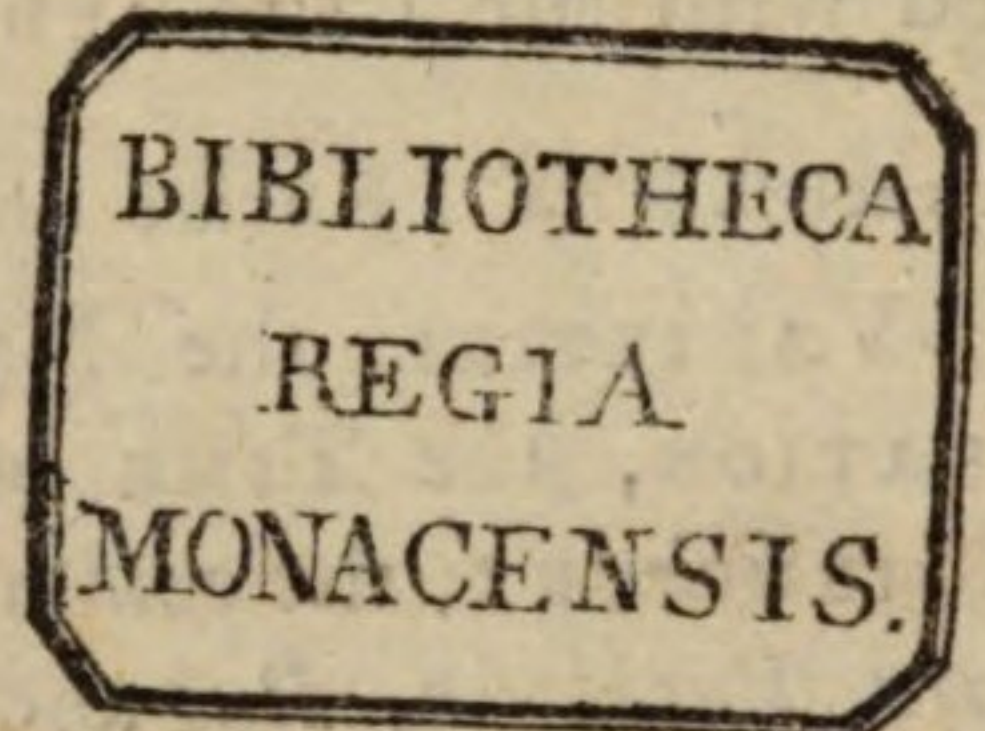
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Botanical Arrangement
OF THE
VEGETABLES

Naturally growing in Great Britain

WITH DESCRIPTIONS OF THE
GENERA AND SPECIES

According to the System of the celebrated Linnæus
Being an Attempt to render them known to those who
are unacquainted with the Language



The USES the MEDICINAL and ECONOMIC
of the VEGETABLES are also described
With their Applications in MEDICINE and the ARTS

INTRODUCTION TO THE STUDY OF BOTANY

The Method of describing PLANTS is explained
to the end that the STUDENT may

be enabled to describe any PLANT he may see

BY WILLIAM SMITH, M.D.

OF THE UNIVERSITY OF OXFORD

IN TWO VOLUMES

THE FIRST VOLUME

OF THE VEGETABLE KINGDOM

AND THE SECOND VOLUME

OF THE MINERAL KINGDOM

OXFORD: Printed by J. BARNARD, at the Theatre-Street Press, 1790.

T H E
D E S I G N.

NOTWITHSTANDING the very rapid progress of Science since the middle of the last century, it is only since the beginning of this that the study of Natural History hath attracted the general attention of mankind.

Botanical enquiries in particular have been confined to a few individuals; partly from the difficulties which attended them, and partly from an opinion that they were only useful to the professors of Medicine; but the establishment of the LINNÆAN SYSTEM hath called forth a number of votaries to cultivate this amiable Science; and the pupils of that great man have taught mankind, that the Medical properties of Plants, are far from being the only circumstances worthy their attention.

THE DESIGN.

Still however difficulties remain. An acquaintance with *one* of the Learned Languages is hardly sufficient to enable us to understand his works. The novelty of the subject compelled him to invent a variety of new terms; and without the advantages of an Academical Education, it is a very laborious task to attain precisely that idea which he wishes them to express.

In this situation of things, what can be done by those who from nature or from accident, find themselves possessed with a taste for Botanical knowledge? They study Botanical plates: but bad plates convey false or insufficient ideas; and good ones are too expensive for general use. If they apply to old voluminous Herbals; the want of method, the deficiencies, and the requisite long continued attention, fatigue the most industrious dispositions. If they seek for information in more modern productions; they find such a multiplicity of terms, formed from the Greek and Latin languages, with nothing English but the terminations; that they first begin to despair, and then relinquish in disgust.

A Desire to remove these difficulties, and to render the path in this walk of science, as easy as it is delightful, first gave rise to the present undertaking. The intention was laudable; but how far the execution corresponds with that intention, the public must decide.

From

From an apprehension that Botany in an English dress would become a favourite amusement with the Ladies, many of whom are very considerable proficient in the study, in spite of every difficulty; it was thought proper to drop the sexual distinctions in the titles to the Classes and Orders, and to adhere only to those of Number, Situation, &c. Those who wish to know the curious facts which gave birth to this celebrated system, may consult the *Philosophia Botanica*; the *Sponsalia Plantarum*, in the first volume of the *Amœnitates Academicæ*; *Lee's Introduction*, and *Milne's Botan. Dict.* where they will meet with many other very interesting Philosophical disquisitions. All controversies about system are studiously avoided: Mankind are weary of such unprofitable disputes: every System yet invented, undoubtedly may glory in its peculiar beauties, and with no less reason, blush for its particular defects.

Sexual Distinctions.

Of System.

It is sufficient for the present purpose that the system of LINNÆUS is now very universally adopted; and though confessedly imperfect, it approaches so near to perfection, that we may perhaps never expect to see any other improvements than such as will be founded upon this plan.

With respect to the language, some apology is undoubtedly necessary. It would be no difficult matter to render the sentences more connected. This would be less awkward, but at the same time

Language.

less perspicuous. Use will take off from the former defect, but never can remove the latter. The best Systematic Naturalists are those who communicate precise and well-defined ideas, and in such a manner, that the characteristic features of what they are describing shall obtrude themselves upon the eye*.

Terms.

No part of this undertaking demanded more attention, or occasioned more labour, than the selection of the terms. The old English Botanists afforded very considerable assistance: still, however, it must be confessed, that many words foreign to the English language, are necessarily retained: but wherever these occur, or wherever an English word is taken in a more strict acceptation than usual, it is to be found in the Glossary; and is there explained, either by description, by the assistance of engravings, or by reference to some well-known example.

In quoting examples to explain the terms, it was thought expedient to use the most common and well-known names of Plants, and likewise to take instances from Plants that are frequent in our gardens, whether naturally growing in this country or not.

* LINNÆUS has great merit in the judicious disposition of his Matter; so that a glance of the eye catches in a moment the subject in question, without the fatigue of reading page after page. In this work, his mode of printing is adopted.

The

The Latin terms used by LINNÆUS are thrown into alphabetical order; partly to demonstrate how little the English language stands in need of foreign terms, and partly with a view of affording assistance when there is occasion to consult other writers upon Botanical subjects.

The Synopsis of the Genera at the head of each Genera. Class, and the subdivisions of the Orders, will be found greatly to shorten the labour of investigation. But the subdivisions are not without exceptions: These, however, as well as the exceptions of particular species, are noted in their proper places, in Italic characters. The Generic descriptions are translated from the sixth edition of the *Genera Plantarum* of LINNÆUS; but they sometimes vary a little from the original, where truth and nature seemed to require it: And in some instances where the original was evidently more adapted to the foreign, than to the British species, it was necessary to naturalize it to our own country, by additional observations.

The characters of the Species are translated from Species. the twelfth edition of the *Systema Naturæ*: but as we have a right to expect that the Flora of a particular country, should be more full and perfect than one that is meant to contain nothing less than the productions of the whole surface of the earth, additional descriptions are added to almost every Species. These additional descriptions are printed in

Italics, and are either taken from actual observation, or from authors of indubitable veracity.

Peculiarities.

The structure of every leaf and every flower, exhibits proofs of Divine Wisdom: but we are too apt to pass without attention, the phænomena that are daily presented to our eyes. In some parts of the vegetable kingdom, there are such peculiarities of structure, and such amazing contrivances to answer the wise purposes of the Creator, that a total disregard to them would have been unpardonable: These therefore are mentioned, in a concise manner, yet sufficiently full to excite the attention of the ingenious.

Sleep of Plants.

Many Plants in the night-time, from a change in the direction of the leaves and leaf-stalks, assume an appearance so totally different from what is usual to them, that the most expert Botanist would hardly be able at first sight to recognize his old acquaintance. This is called the SLEEP OF PLANTS; and is noticed under some of the Species; as is likewise the WAKEING or opening of flowers. Most flowers when once expanded, continue so night and day. Some close against rainy weather, but some have their stated times of opening and closing independent of any sensible changes in the atmosphere. Thus the white WATERLILY opens at seven in the morning, and closes again at four in the afternoon. The yellow GOATSBEARD has long been known to have this property, and is therefore

**Wakeing of
Flowers.**

THE DESIGN.

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therefore called by the country people, JOHN GO TO BED AT NOON. If kept in a bottle of water, it will be found to open at three or four o'clock in the morning, and to close again before noon.

At a time when the names of Plants are already Names. too numerous, nothing less than the plea of indispensable necessity can justify the introduction of new names for any of the Genera : But the intelligent reader will immediately perceive the impossibility of forming an English system, without making English Generic names. Innovations of this kind are never admitted without an absolute necessity ; and wherever that necessity appeared, recourse was had to the old English Botanists ; and if they afforded no assistance, such a name was invented as might be expressive of some striking characteristic of the Plant. To prevent confusion, the common English names are added to the Species, and where the common name of a Plant cannot be retained for the Genus, it is generally adopted as the trivial name of the Species.

The Latin Synonyms of *Gerard*, *Parkinson* and Synonyms. *Ray*, are subjoined to each Species ; and likewise the Synonyms of *Caspar Baubine* ; the latter principally with a view to medical students, because writers upon the Materia Medica generally make use of *Baubine's* names. In the 24th Class the Synonyms of *Dillenius* are given, and references to his plates.

Soil and Situation.

In mentioning the places of growth, it was thought more eligible to give the Soil and Situation in general terms, than to specify the particular places where such and such Plants have been found; as the latter method would probably tend to retard the progress of the Science by damping the expectations of its votaries.

Oeconomical Uses.

The Oeconomical Uses of Vegetables, have been hitherto but little attended to by men eminent for Botanical Knowledge. The Theory of the Science, and the Practical Uses have been too much disjointed. At length, however, the generality of mankind are tired with the disputes about Systems, and the vegetable productions of Europe are pretty well arranged: It is time therefore to think of turning our acquisitions to some useful purpose. Our own countryman, the ingenious and indefatigable Mr. *Ray*, in his journeys through the different parts of this Island, collected some facts; but it is to the industry of LINNÆUS and his Disciples that we are indebted for the greater part of our knowledge upon this subject. Mr. *Stillingfleet*, with a zeal truly commendable, attempted to render the Botanical Study of the Grasses subservient to the great purposes of agriculture*; but whilst the farmers wanted the means of distinguishing the different Genera and Species, it was in vain to look for an adoption of his plan.

* See his Miscellaneous Tracts.

In years of scarcity we are often told of mankind suffering, and sometimes perishing by famine; but surely, this would never be the case, if men were apprized of the very great number of esculent Vegetables that grow wild and unnoticed in the fields. Some of them might be used with advantage, even amidst the luxury of plenty; and others may easily be gathered in quantities sufficient to support life, when better or more agreeable food cannot be had. With this view, the part of the plant to be preferred, and the usual mode of dressing it, are mentioned under those Species that have been found the fittest for foodful purposes. Uses as Food.

It is certainly a matter of the greatest consequence to determine what Species of Plants are preferred by particular Animals; for what is noxious to one Animal is often nutritious to another. Thus the WATER COWBANE is a certain poison to cows; whereas the goat browses upon it greedily. MONKSHOOD kills goats, but will not hurt horses. Bitter Almonds are poisonous to dogs, but not to men. PARSLEY is fatal to small birds, while swine eat it safely; and Pepper is mortal to swine but wholesome to poultry. Many experiments made with this view by LINNÆUS and his pupils at *Upsal*, are given in the second vol. of the *Amœnitates Academicæ*. The result of those that relate to the British Plants, will be found under the particular Species. Many of them were repeated ten and even twenty different times, and with Uses for Cattle.

with the precautions mentioned below, which are here added for the sake of those who have leisure and opportunity to pursue these interesting enquiries further. When horses, cows, &c. are said to eat the plant, it means that they eat the *Leaves* of the plant. Thus horses and cows eat a great variety of Grasses; but they only eat the leaves; for when left to their own choice they never touch the flowering *Stems*. Some Plants are eaten early in the spring, whilst young and tender, but are rejected in the summer. The Animals chosen for these experiments must not be over-hungry, for an empty stomach will compel them to feed upon plants which nature never designed for them: Nor should they be taken immediately out of the house; because after living a considerable time upon dry food they devour greedily every green vegetable that comes in their way. The Plants offered them should be handled as little as possible, for some Animals are very nice, and will refuse the most agreeable food when defiled by sweaty hands. Throw the Plant in question upon the ground; if the Animals refuse to eat it, mix it with others that they are known to like, and if they still refuse it the point is clear, especially if the experiment is repeated with different individuals.

Uses for In-
sects.

The Catalogue of Insects that feed upon the different Species of Plants, is confessedly very imperfect; but it will serve as a foundation for future observations of the same kind. Perfection in
these

these matters is not to be attained at once. In its present state it may not be without its use. It will be seen that Insects live chiefly upon the products of the taller Trees which grow out of the reach of Quadrupeds, such as the ELM, the PEAR, the LIME and the OAK; or upon the thorny and stinging Plants which repel the attacks of other Animals, as the ROSE, the THISTLE and the NETTLE; or upon such plants as exist every where in great abundance as the GRASSES; or lastly, upon such Plants as other Animals will not eat, as the DOCK, the WATERLILY, the FIGWORT and the HENBANE.

Derham supposes, and with a degree of probability on his side; that the Virtues of Plants may be discovered by observing what Insects feed upon them. Thus the Green Tortoise Beetle feeds upon LYCOPUS and upon MENTHA, which are plants of the same *Natural Order*, and possessed of the same Virtues. The Swallow-tail Butterfly feeds upon several of the Rundle-bearing plants of the fifth Class, which we know are endowed with similar qualities; and the Orange-tip Butterfly devours the Common LADY-SMOCK and the MITHRIDATE, which are Plants of the same *Natural Class* and have nearly the same properties.

Many Plants change the appearance of some of ^{Changes.} their parts to accommodate certain Insects with convenient

convenient lodgings : Some of the most remarkable of these are noticed.

Uses in the
Arts.

It is beyond a doubt, that the Inhabitants of different countries, and artists of different kinds, know how to apply a number of Plants to answer a variety of purposes ; many more than we are at present aware of. Such of these as could be selected from good authorities, or obtained from private information, are subjoined in their respective places,

Medical Vir-
tues.

Many people will be surprized to find so little said upon the Medical Virtues of Plants ; but those who are best enabled to judge of this matter, will perhaps think that the greater part of that little might have been omitted. The superstition of former ages, operating upon the ignorance of mankind, gave rise to miracles of every denomination ; and the fashion of combining a great variety of ingredients with a design to answer any particular purpose, rendered the real efficacy of any of them extremely doubtful. The dreadful apprehensions that men formerly entertained of poisons, made them fearful of employing substances that were capable of doing mischief, and therefore they rejected those that were most likely to do good. A number of Vegetables fit only for food, were supposed capable of producing the greatest alterations in the human body ; and at length every common Plant was esteemed a cure for almost every disease. In this situation of things, little advantage can be reaped

reaped from the experience of former times : we shall sooner attain the end proposed, if we take up the subject as altogether new, and rejecting the fables of the antient Herbalists, build only upon the basis of accurate and well-conceived experiments. To facilitate the work as much as possible, the following observations are added.

Certain Plants, capable of producing very sudden and remarkable effects upon the Human Body, are called Poisons. But Poisons in small doses are the best medicines, and the best medicines in too large doses are poisonous. Even the most innocent aliments in certain quantities are noxious.

We must not disdain to learn the Medicinal uses of Plants from the meanest of Mankind ; especially where they use their remedies in an uncompounded form ; for what are those celebrated medicines we import from the *Indies* at a considerable annual expence, as the Ipecacuanha, the Contrayerva and the Sarsaparilla, but remedies, by long experience, approved amongst the common people in the countries from which we purchase them?

Plants of the same Genus have something of the same Virtues : Those of the same *Natural Order* have still a nearer resemblance ; and those of the same *Natural Class* the nearest of all. These properties are remarked in the Introductions to the Classes.

Plants

THE DESIGN.

Plants having honey-cups detached from the petals are generally poisonous, as the HELLEBORE, the COLUMBINE and the DAFFODIL.

Plants with a milky juice are frequently poisonous; as some of the MUSHROOMS, the SPURGES, and CELANDINE. Others are so but in a less degree as HAWK-WEED, GOATSBEARD, SUCCORY and LETTUCE.

Plants with a simple jointed stem, sword-shaped leaves and fleshy roots are generally acrid: thus the juice of the yellow FLAG excites vomiting and sneezing.

The pleasant-tasted and sweet-smelling Plants are generally wholesome.

Plants that have an ungrateful smell produce disagreeable effects, as the ELDER, and many of the FUNGUSES. Those that smell nauseously, as the HENBANE are generally poisonous.

Plants that are bitter to the taste are stomachic, and destroy acidity; as GENTIAN and CENTAURY.

Acid Plants abate heat and thirst, and resist putrefaction; as the fruit of the CURRANT or the leaves of the WOODSORREL.

Astringent

Astringent Vegetables are discovered by the taste.

A red colour indicates acidity; a yellow, bitterness, or acrimony.

Plants in dry seasons and dry situations, have most taste; in moist ones they are more insipid. Thus the aromatic Plants, as THYME, SAGE and MARJORAM are by far the best in dry soils; and every one knows the insipidity of Fruits in wet soils and wet seasons.

Plants that grow in watery situations are often corrosive; as CROWFOOT and WATERLILY. But the corrosive aquatic Plants lose much of their acrimony when cultivated in a dry soil: Of this the Garden CELERY is a sufficient example.

ROOTS are in greatest perfection when the leaves first begin to put forth.

LEAVES are best gathered when the blossoms are beginning to open.

FLOWERS are in greatest perfection when moderately expanded.

SEEDS must be gathered when they have attained their full size and are nearly ripe.

BARKS are best in the winter before the sap rises.

Different parts of the same Vegetable often manifest very different properties: Thus the leaves of
WORM-

WORMWOOD are bitter, whilst the roots are aromatic. The Seed-vessels, or Heads of POPPIES are narcotic, but the seeds have no such quality.

It will readily be allowed that these rules are by no means universal: The exceptions to most of them are numerous. We must be content to consider them as rude and imperfect out-lines, which the industry of future ages must correct and complete.

A N
E A S Y
I N T R O D U C T I O N

To the STUDY of

B O T A N Y.

WE must take it for granted that the Botanical Student will be at no loss to distinguish a Vegetable, at first sight, from an Animal or a Fossil. It must likewise be believed that all Vegetables are capable of producing Flowers, and Seeds.

As the Linnæan System of Botany is chiefly founded upon the number, shape, and situation of the parts composing a Flower, we shall immediately enter upon a description of these parts, which are the elements of the science;

I N T R O D U C T I O N.

science; and therefore a knowledge of them is indispensibly necessary.

Flowers consist of the	{	EMPALEMENT.
		BLOSSOM.
		CHIVES.
		POINTALS.
		SEED-VESSELS.
		SEEDS.

To these may be added, the HONEY-CUP and the RECEPTACLE.

Some Flowers possess all these different parts, whilst others are deficient in some of them; but the Chives, or the Pointals, or both, are to be found in all.

The EMPALEMENT is formed of one or more green, or yellowish green leaves, placed at a small distance from, or close to the blossom.

The different kinds of Empalement are (1) Cups. (2) Fences. (3) Catkins. (4) Sheaths. (5) Husks. (6) Veils. (7) Caps; but the most common is the CUP. For an explanation of these see the glossary; or look at a rose, and the green covering that incloses and supports the blossom is called the CUP. Pl. 3. fig. 1. (a. a. a. a. a.) The Cup of a Polyanthus is represented in pl. 3. fig. 10.

Linnæus says the Empalement is formed by the outer bark of the plant.

The BLOSSOM is that beautifully coloured part of a flower, which commands the attention of every body. If it is entire and undivided, as in the Polyanthus, or Auricula; it is said to be a blossom of *one Petal*; but if it is composed of several parts, it is accordingly said to be a blof-

a blossom of *one, two, three, &c.* or many parts or *Petals*. Thus the Blossom of the Tulip is formed of six Petals; and the Garden Roses bear Blossoms composed of many Petals. The Blossom is supposed to be an expansion of the inner bark of the plant.

The CHIVES are slender thread-like substances, generally placed within the Blossom, and surrounding the Pointals. A Chive is composed of two parts, the *Thread* and the *Tip*, but the Tip is the essential part. Chives are formed of the woody substance of the plant.

The POINTALS are to be found in the center of the flower. Some flowers have only one Pointal; others have two, three, four, &c. and some have more than can easily be counted. Linnæus says the Pointals are formed of the pith of the plant. A Pointal is composed of three parts, the *Seedbud*, the *Shaft* and the *Summit*; but the Shaft is often wanting.

The SEED-VESSEL. In the newly opened flower, this part was called the *Seed-bud*; but when it enlarges and approaches to maturity, it is called the *Seed-vessel*. Some flowers have no Seed-vessels: in which case the Empalement incloses and retains the Seeds until they are ripe.

SEEDS, are sufficiently well known; the substance to which they are fixed within the seed-vessel is called the *Receptacle of the Seeds*.

INTRODUCTION.

HONEY-CUPS are those parts of a Flower which are found to contain honey. The tube of the Blossom serves the purpose of a Honey-cup in many Flowers, as in the honey-suckle: but in other flowers there is a peculiar organization destined to this purpose. See pl. 5. fig. 1, 2, 3, 4.

The RECEPTACLE is that part to which the above-mentioned parts of a Flower are fixed. Thus if you take a Flower and pull off the Empalement, the Blossom, the Chives, the Pointals and the Seeds or Seed-vessels, the remaining part at the top of the Stalk is the Receptacle. In many Flowers the Receptacle is not a very striking part, but in others it is very large and remarkable: thus in the Artichoke, after we have taken away the leaves of the Empalement, the Blossoms, and the bristly substances; the part remaining, and so much esteemed as food, is the Receptacle.

Having thus briefly mentioned the different parts that enter into the composition of Flowers, let us for the sake of illustration examine some well known instance. Suppose it to be a flower of the CROWN IMPERIAL.

CROWN

CROWN IMPERIAL:

ENPALEMENT. None.

BLOSSOM. - - Six Petals. (Pl. 3. fig. 2. *a. a. a. a. a. a.*)

CHIVES - - - Six. (Pl. 3. fig. 2. *bc. bc. bc. bc. bc. bc.*)

Threads fix; shaped like an awl. (Pl. 3.

fig. 2. *b. b. b. b. b. b.*)

Tips oblong; four-cornered. (Pl. 3. fig. 2.

c. c. c. c. c. c.)

POINTAL - - Single,

Seed-bud oblong; three-cornered. (Pl. 3.

fig. 2. *d.*)

Shaft longer than the Chives. (Pl. 3.

fig. 2. *e.*)

Summit with three divisions. (Pl. 3.

fig. 2. *f.*)

SEED-VESSEL An oblong capsule, with three cells and three valves. (Pl. 3. fig. 4, represents the Seed-vessel cut a-crofs to shew the three cells in which the Seeds are contained.

SEEDS - - - - Numerous; flat.

By considering this description with some attention, and comparing it with the Flower itself, and likewise with the engraved figures, we shall soon attain a pretty good idea of the different parts of a Flower. If a Crown Imperial is not at hand, a Tulip or a Lily will correspond pretty well with the above description. But if we examine the Crown Imperial we shall find at the base of each Petal a hole, which is the Honey-cup. In pl. 3. fig. 3. is a representation of one of the Petals separated from the rest, to shew the Honey-cup at (*k.*) and one of the Chives (*h. i.*)

It is natural to ask the uses of these different parts— A full reply to such a question would lead us to a long disquisition, curious in itself, but quite improper in this place. Let it therefore suffice to observe that the production of perfect Seed is the obvious use of the flower; that for this purpose the Seed-bud, the Summit and the Tips are all that are essentially necessary; and perhaps the Summit might be dispensed with. The fine dust, or meal that is contained in the Tips, is thrown upon the Summit of the Pointal: This Summit is moist and the moisture acting upon the particles of the dust, occasions them to explode, and discharge a very subtile vapour. This vapour passing through the minute tubes of the Pointal, arrives at the Embryo Seeds in the Seed-bud, and fertilizes them. The Seeds of many plants have been observed to become, to all appearance, perfect without this communication, but these Seeds are incapable of vegetation. In pl. 3. fig. 5 at *f*, one of the Tips is represented discharging its dust; and at fig. 8 you see a particle of dust greatly magnified and throwing out its vapour. The Empalement and the Petals seem primarily designed as covers to protect the more essential parts; and perhaps it is not too vain an imagination to believe, that a display of beauty was in some measure the design of the Creator.

Independant however of these uses designed by Nature, the Botanist takes advantage of the different number, figure, size and situation of these parts, and assumes them as the foundation of a systematic arrangement. He divides all the vegetable productions upon the surface of the globe, into Classes, Orders, Genera, Species and Varieties. The Classes are composed of Orders; the Orders are composed of Genera, the Genera of Species, and the Species of Varieties.

INTRODUCTION.

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Men usually consider the productions of Nature as forming three distinct parts, called the Animal, the Vegetable and the Fossil or Mineral Kingdom.

Therefore taking the matter up in this familiar language, let us endeavour to attain an idea of Classes, Orders, &c. by continuing the allusion. Let us compare

The	{	VEGETABLE KINGDOM to the KINGDOM of ENGLAND;
		CLASSES - - - - - to the COUNTIES;
		ORDERS - - - - - to the HUNDREDS;
		GENERA - - - - - to the PARISHES;
		SPECIES - - - - - to the VILLAGES;
		VARIETIES - - - - - to the HOUSES.

Some authors have aptly enough compared

A CLASS - - to an Army;
 An ORDER - - to a REGIMENT;
 A GENUS - - to a COMPANY;
 And a SPECIES to a SOLDIER;

But no comparison can be more in point, than that which considers the vegetables upon the face of the globe, as analagous to the inhabitants; thus—

VEGETABLES resemble INHABITANTS;
 CLASSES - - resemble NATIONS;
 ORDERS - - resemble TRIBES;
 GENERA - - resemble FAMILIES;
 SPECIES - - resemble INDIVIDUALS
 And VARIETIES are the same *Individuals* in different dresses.

All the vegetables in Great-Britain are divisible, according to the System of Linnæus, into twenty-four Classes.

INTRODUCTION.

The characters of the Classes are taken either from the *number*, the *length*, the *connexion*, or the *situation* of the Chives.

The characters of the Orders, are most frequently taken from the number of the Pointals; but sometimes from some other circumstances either of the Chives or Pointals, which will be noticed hereafter.

The characters or marks of the Genera, are taken from some particulars in the flower, before unnoticed; but the generic descriptions are designed to contain an account of *all* the most obvious appearances in the flower.

The species are mostly characterized from peculiarities in the stem or leaves; sometimes from parts of the flower; rarely from the roots.

Varieties. Both leaves and flowers are subject to variations; some of them evidently dependant upon soil and situation: but others owing to causes which are hitherto un-ascertained. Thus the leaves of the Water Crowfoot that grow beneath the surface of the water, are much more divided than those that grow above the surface: so that a person unacquainted with this circumstance, would hardly believe they belong to the same plant. Again, the leaves of the perennial Snake-weed in wet situations are smooth; but in dry and warm situations hairy. Some authors therefore have reckoned them as distinct species; but let them change situations, and the appearances will be changed likewise. But why the leaves of Mint are sometimes curled, those of Holly or Mezereon variegated with white, &c. is a more difficult matter to determine; seeing that slips from these plants, though growing in different soils, do not lose their peculiarities: but young ones raised from seeds

return

return to their original form. It is evident therefore that these, however different in appearance, are not to be considered as distinct species, but as varieties.

No variations are more common than those of colour; but desirable as these changes are to the Florist, they have little weight with the Botanist, who considers them as variable accidental circumstances, and therefore by no means admissible into the character of a species.

Many flowers, under the influence of garden culture, become double; but double flowers are monsters, and therefore can only rank in a System of Botany, as varieties. When we consider that every plant is composed of an outer bark, an inner bark, a wood, and a heart or pith; and that flowers are formed by an expansion of these parts; when we recollect too that the Chives are formed of the woody substance, and told that this woody substance was originally formed by many coats of the inner bark condensed; we shall not be at a loss to account for the production of double flowers. The woody substance instead of being formed into Chives is expanded into Petals. This seems to be effected by too much succulent nourishment preventing the wood being properly consolidated. Hence it is that the flowers with many Chives are more apt to become double, and to a greater degree, than those that have few; as appears in the Anemone, the Ranunculus, the Poppy and the Rose. Where the Petals are so much multiplied as to exclude all the Chives, the flowers necessarily become barren.

CHARACTERS of the CLASSES.

CLASS.										PL. I. (fig.)	EXAMPLES.
I.	One Chive.	—	—	—	—	—	—	—	—	1 (a)	Mares-tail.
II.	Two Chives.	—	—	—	—	—	—	—	—	2	Privet. Lilac.
III.	Three Chives.	—	—	—	—	—	—	—	—	3 (a. a. a.)	Saffron. Grasses.
IV.	Four Chives.	—	—	—	—	—	—	—	—	4	Plantain. Teasel.
V.	Five Chives.	—	—	—	—	—	—	—	—	5	Honeysuckle. Primrose.
VI.	Six Chives.	—	—	—	—	—	—	—	—	6	Sparagus. Tulip.
VII.	Seven Chives.	—	—	—	—	—	—	—	—	7	Horse-Chestnut.
VIII.	Eight Chives.	—	—	—	—	—	—	—	—	8	Mezereon. Heath.
IX.	Nine Chives.	—	—	—	—	—	—	—	—	9	Gladiol. Bay-tree.
X.	Ten Chives.	—	—	—	—	—	—	—	—	10	Campion. Fraxinella.
XI.	Twelve Chives.	—	—	—	—	—	—	—	—	11	Houf-leek. Purslane.
XII.	Twenty Chives.	—	—	—	—	—	—	—	—	12	Hawthorn. Apple. Rose.
XIII.	Many Chives.	—	—	—	—	—	—	—	—	13	Poppy. Larkspur.
XIV.	Two Chives longer.	—	—	—	—	—	—	—	—	14 (a. a.) (c. c. c.)	Fox-glove. Toad-flax.
XV.	Four Chives longer.	—	—	—	—	—	—	—	—	15 (a. a. a. a.) (b. b.)	Wall-flower. Cabbage.
XVI.	Threads united.	—	—	—	—	—	—	—	—	16 (c. c. c.)	Geranium. Mallow.
XVII.	Threads in two sets.	—	—	—	—	—	—	—	—	17 (a. b.)	Pea. Gorze. Broom.
XVIII.	Threads in many sets.	—	—	—	—	—	—	—	—	18	Orange. St. John's-wort.
XIX.	Tips united.	—	—	—	—	—	—	—	—	19 (a. a.) (b. b.)	Violet. Dandelion. Sunflower.
XX.	Chives on the Pointal.	—	—	—	—	—	—	—	—	20 (a. a. a.)	Orchis. Cuckow-pint.
XXI.	Chives and Pointals sep.	—	—	—	—	—	—	—	—	21 (a.)	Oak. Nettle. Cucumber.
XXII.	Chives and Pointals dist.	—	—	—	—	—	—	—	—	22 (a.)	Hop. Milletoe. Yew.
XXIII.	Various situations.	—	—	—	—	—	—	—	—	23 (a. b. c.)	Cross-wort. Ash. Orache.
XXIV.	Flowers inconspicuous.	—	—	—	—	—	—	—	—	A B C D E F G H.	Ferns. Mosses. Liverw. Mushr.

By looking over this table, by referring to the plate, and sometimes by having recourse to the plants mentioned as examples, the learner will soon commit the character of the Classes to memory, so that upon the first sight of a flower it will be no difficult matter to refer it to its proper Class; and a knowledge of the Orders will very readily be attained, by observing, that

In the 14th Class the ORDERS depend upon the Seeds having a Seed-vessel or not.

- - - - 15th upon the shape of the Seed-vessel.
- - - - 19th upon the structure of the Florets. (*See the introduction to the 19th Class.*)
- - - - 20th upon the number of Chives.
- - - - 21st. and 22d. upon the number and situation of the Chives, or the union of the Tips.
- - - - 23d. upon the situation of the Chives and Pointals.
- - - - 24th upon the natural assemblages of plants resembling one another.

And in all the other Classes not particularly specified, the Orders depend upon the *Number* of the Pointals.

Before we can understand the Characters of Genera, we must again consider the different parts that enter into the structure of the flowers, and learn how these different parts may be modified. As for instance,

The EMPALEMENT is either a	{	CUP - - as in Auricula or Polyanthus.
	{	FENCE - - in Hemlock or Carrot.
	{	CATKIN - in Willow or Hazle.
	{	SHEATH - in Narcissus or Snowdrop.
	{	HUSK - - in Oats; Wheat; or Grasses.
	{	VEIL - - in Mosses.
	{	CAP - - - in Mushrooms.

For

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For a more full explanation of these terms and references to the plates, examine the Glossary.

The BLOSSOM is either	{	ONE PETAL <i>as the</i> Lily or Polyanthus. MANY PETALS <i>as the</i> Rose or Tulip. Altogether wanting <i>as in</i> Narrow-leaved Dittander.
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For a more full explanation of the modifications of Petals and Blossoms see the Glossary, and likewise plate 4.

The CHIVES and POINTALS have been sufficiently explained before.

A SEED-VESSEL is either a	{	CAPSULE, <i>as in</i> Poppy and Convolvulus. POD, - - - <i>in</i> Wallflower and Honesty. SHELL, - - - <i>in</i> Pea and Broom. BERRY, - - - <i>in</i> Elder; Gooseberry. FLESHY - - - <i>in</i> Apple or Pear. PULPY - - - <i>in</i> Cherry or Peach. CONE, - - - <i>in</i> Fir or Pine.
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These terms will be found more fully explained in the Glossary, and illustrated in plate 5.

A RECEPTACLE is either peculiar to one flower as in the Rose, Lily, and Polyanthus; or common to many flowers, as in Dandelion, Hawkweed and Artichoke. (*See the Glossary.*)

FLOWERS may be collected into	{	SPIKES. PANICLES, BROAD-TOPPED SPIKES, BUNCHES, RUNDLES, TUFTS, WHORLS, CATKINS.
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Each

Each of these terms may be found in the Glossary, where they are explained by familiar examples and references to the plates.

For a proper understanding of Compound Flowers the reader is likewise referred to the Glossary and to the explanation of the 4th plate.

Having now attained tolerably precise ideas of the constitution of Classes and Orders, and likewise of the parts upon which the Generic Characters are founded; let us select a few instances of well known plants, and after investigating them systematically, we shall be at no loss to investigate others that are entirely unknown.

R U L E S for I N V E S T I G A T I O N.

First, When a plant offers itself to our inspection, the first thing to be determined is the Class to which it belongs. This is to be done by examining the Chives, and referring to the Table of the Classes. Having fixed upon that which we believe to be right, let us turn to that Class in the book; and if the Introduction to that Class gives us no reason to alter our opinion, we are pretty certain of being so far right. It is best not to trust to the examination of one flower only; for we shall sometimes find that the number of Chives is different in different flowers upon the same plant. In that case the classic character must be taken from the terminating flower.

Second. We must next look how many Orders the Class consists of; and after observing the circumstances by which the Orders are determined, we must compare these with the subject in hand. If the Order we refer it to hath any subdivisions, we shall soon perceive under which

which of the subdivisions we must expect to find the Genus.

Third. After comparing the Flowers with the different Genera, contained in the Order, or in the particular subdivision of the Order, we shall readily perceive with which of them it corresponds; and looking forward to the description of that Genus, if the description agrees pretty exactly with our specimen, we conclude that we are now certain of the Genus. Doubtful matters will sometimes arise; but these are for the most part made clear by observations subjoined to the generic descriptions.

Fourth. If none of the Generic Characters at the beginning of the Class agree with the Flower; we must then look at the bottom of the Order or subdivision of the Order, and see what plants are noticed under it in Italic Characters. Some of these must be the plant; therefore looking for these in the index and comparing the generic descriptions with the specimen in hand, we shall not only discover the Genus, but the circumstance likewise that perplexed us.

Fifth. Having now got the Genus, you will observe that when the Species under that Genus are numerous, they are subdivided. Consider then which of these subdivisions it best agrees with, and having determined that, compare it with the several Species; your plant must agree with some one of these: and if it is a Variety, you will probably find that variety mentioned. In determining upon the Species it is not absolutely necessary to read the whole of the specific character. The former part, printed in Roman Letters and ending with this mark — is sufficient; but the additional descriptions in Italics are not without their use.

Sixth. Make it an invariable rule, not to pass over a term you do not thoroughly understand, without consulting the Glossary. By this means you will very soon learn to do without consulting it at all.

Seventh. When you gather plants for examination collect a considerable number of the Flowers, and if possible, some just opening and others with the Seed-vessels almost ripe.

It was thought necessary to give a variety of examples for investigation, 1. Because only some of them are to be found at any one season : 2. Because plants common in one County are not equally common in all. 3. Because the student is not supposed previously to be acquainted with many plants, and those he does know are only a few of the most common kind. 4. He is not desired to examine and compare *all* the examples : perhaps it will be better he should sometimes try his strength at unknown Flowers that he chances to pick up in his walks.

E X A M P L E I. P R I V E T.

The Privet is a shrub common enough in the hedges in many parts of England. It generally blossoms in June, and its blossoms are white. Let us suppose a branch of it in blossom before us : that we are ignorant what plant it is ; and are required to investigate it. We look into several of the Blossoms, and find two Chives in each Blossom. This circumstance informs us it belongs to the second Class. Turning to the beginning of the second Class at page 5, we find it contains two Orders, and that the Orders depend upon the number of Pointals : therefore looking again at the Flowers we find one Pointal in each ; so that our plant belongs to the first Order of the
second

second Class. This Order we find subdivided into four parts, and that these subdivisions depend upon the regular or irregular form of the Petal, and upon the Blossom being fixed above or below the Seed-bud. In our specimens the Blossom is one *regular* Petal fixed *below* the Seed-bud. These circumstances correspond only with the first subdivision, and that subdivision contains only one Genus; so that there can be no doubt but the plant is Privet. We find too that the Blossom is cloven into four parts, and that it is succeeded by a Berry containing four Seeds. Looking forward therefore to Privet, No. 4. page 6. we compare it with the generic description, and have the satisfaction to find it agree pretty exactly. As this Genus contains only one Species, we soon determine that it is the Common Privet, or the *Ligustrum vulgare* of Linnæus.

E X A M P L E II. R E E D.

Upon the banks rivers, in wet ditches, and upon the borders of pools, the Reed is sufficiently common. It is a sort of large Grass, five or six feet high and flowers in June. Having got a specimen of this, we proceed to examine it systematically. At first sight we observe that the Flowers grow in panicles, and that each Flower contains three Chives. We therefore turn to the beginning of the third Class (page 17.) and find *that* Class divided into three Orders which depend upon the number of Pointals. Each of our Flowers contains two Pointals, which brings us to the second Order. This Order is divided into four parts. The first subdivision contains the plants with Flowers scattered, or irregularly disposed, one only in each Empalement. Our plant agrees with the first circumstance, but not with the last, for we find five Flowers in each Empalement. The second subdivision

vision contains only two flowers in each Empalement, therefore we pass that over, and come to the third, with scattered flowers, and several in each Empalement. Before we proceed further, we just look at the last sub-division, but finding the flowers without fruit-stalks fixed to a long toothed seat or Receptacle we immediately recur to the third sub-division at the top of the 19th page. This sub-division contains six Genera, and we compare the Characters with the plant in hand. The want of an Awn, and the wooliness at the Base of the Blossoms determines us to call it a Reed. Turning therefore to Reed (page 39) we compare it accurately with the Generic Description, and find it correspond with that. But as the parts constituting the Flowers of Grasses are frequently very minute, we make use of the Botanical Microscope and the Dissecting Needles to display them more clearly to the eye; * and likewise take the advantage of comparing them with the figures in the plate fronting page 33. Having determined it to be a Reed, the only difficulty remaining is to ascertain the Species. We see that only four species of Reed are natives of Great Britain; and the circumstances of the five Florets in each Empalement added to the flexibility of the Panicle, which we had observed whilst growing to be waved about with every wind, leave us no longer room to doubt that it is the Common Reed, or the *Arundo Phragmitis* of Linnæus.

EXAMPLE III. PLANTAIN.

The Plantain Flowers in June and July. It is very common in mowing Grass, and on the sides of roads. It is frequently stuck in the cages of Linnets and
c
Canary

* N.B. The Botanical Microscope and Dissecting Instruments may be had of the Publishers, or of the Country Booksellers, price Seven Shillings.

Canary Birds, who are fond of the seeds. Upon examining a specimen of this, we find each Flower contains four Chives, nearly of the same length, and therefore we refer it to the fourth Class. At page 70 we find this Class includes three Orders, dependant upon the number of Pointals. Each of our Flowers contains only one Pointal, and therefore belong to the first Order. This Order admits of seven sub-divisions. The specimen we have, contains Blossoms of one Petal; this Petal is fixed below the Seed-bud, and there is but one Seed-vessel in each Flower. From these circumstances we look for it in the second subdivision, and finding by cutting across the Seed-vessel, that it is divided into two cells, we call it a Plantain. At No. 45. page 76 we compare it with the Generic Description, and finding *that* agree in most particulars, we try to determine the species. There are six species of Plantain natives of Great Britain. These Species are not subdivided, therefore we begin with the first; the Great Plantain, but the Leaves are not egg-shaped; nor are the stalks cylindrical. The Hoary Plantain which is the second, agrees pretty well: but the Leaves are not downy, nor is the spike of the Flowers cylindrical. With the third Species it agrees in every particular; therefore we call it the Ribwort Plantain, or the *Plantago lanceolata* of Linnæus; the *Plantago angustifolia* major of Bauhine; the *Plantago quinquenervia* of Gerard: the *Plantago quinquenervia* major of Parkinson; and in those authors we shall find it described under the respective names.

EXAMPLE IV. HONEYSUCKLE.

This Plant is very common in our hedge-rows, and is very universally known; but let us suppose a Foreigner who never saw it before, struck with the beauty and
the

the fragrance of its Blossoms, carrying a piece of it home to examine it. Finding five Chives in each Flower, and the Tips not united, he refers it to the fifth Class. The Orders in that Class being determined by the number of Pointals, he knows it belongs to the first Order, for he observes only one Pointal in each Flower. This Order is subdivided into seven parts. The four naked Seeds, and the rough Leaves, immediately determine him to reject the first sub-division. The blossom being fixed beneath the Seed-bud, not corresponding with his Flower, he rejects the second and passes on to the third sub-division, where he finds

* * * *Flowers of one Petal ; superior.*

His Flower consists of one Petal, and this Petal is fixed above the Seed-bud. This subdivision containing four Genera, he observes the three first have Capsules ; but in the last the Seed-vessel is a Berry with two Cells ; this circumstance added to a small inequality of the Blossom, and the Knob at the top of the Pointal, induces him to believe it to be a Honey-suckle. He looks for No. 87 (p. 131) and comparing the Flower with the Generic Description, is confirmed in his opinion. Under this Genus he finds two Species. At the first perusal of the specific character, he discerns his plant to be the Woodbine Honey-suckle, or the *Lonicera periclymenum* of Linnæus.

EXAMPLE V. CARROT.

We select this as an example of the *Umbelliferous* or RUNDLE-bearing plants, (*See the introduction to the 5th Class.*)

The five Chives with Tips not united, and the two Pointals evident in each Floret, determine us to look

for it in the second Order of the 5th Class. This Order admits of four subdivisions, 1. *Flowers of one Petal : beneath.* But our plant hath five Petals ; therefore we go to the 2d, *Flowers of five Petals ; beneath.* The Florets in hand have five Petals, but the Petals are not placed beneath the Seed-bud. The third subdivision contains imperfect Flowers, or Flowers without Blossoms ; but our Florets have Blossoms composed of five Petals ; therefore we proceed to the * * * * *Flowers of five Petals ; superior, and two Seeds : In RUNDLES.* All these circumstances agreeing with the plant before us, we must look for it here ; but observing that this subdivision of the Order is farther divided into plants that have the FENCE *both general and partial* ; into plants with the FENCE *only partial* ; and into Plants *without any FENCE* ; we examine the specimen, and find a Fence to each Rundle and likewise a Fence to each Rundlet. The unequal size of the Petals ; the winged Fence, and the prickly Seeds, agreeing with No. 109 Carrot, we turn to that Genus. Finding our plant agree with the Generic Description, and only one Species under that Genus, we know it to be the wild Carrot, or the *Daucus Carota* of Linnæus.

EXAMPLE VI. CUCKOW-FLOWER.

White or Red Campion ; Batchelors Buttons ; *Lychnis*. It grows wild in woods and Ditch-banks, flowering in June and July. After examining several of the Flowers and finding ten Chives in each, and the Threads not united ; observing too no Vestige of any Pointals, we begin to suspect that it belongs either to the twenty-first Class, where the Chives and Pointals are contained in separate Flowers ; or to the twenty-second Class where the Chives and Pointals are found not only in separate Flowers, but these Flowers grow upon distinct Plants. In this dilemma

dilemma we go to the place where the Plant was gathered, and after examining several, at length find that the Flowers containing Chives, and the Flowers containing Pointals grow upon distinct Plants. We therefore turn to the twenty-second Class, and finding the Orders of that Class founded upon the number of Chives, we look for it in the ninth Order, as the Flowers of that Order are said to contain ten Chives. But this Order contains only the names of two plants in Italic Characters. By the Direction of the fourth rule for investigation, we search for these two plants, and find at page 270 the Generic Description of the Cuckow-flower agreeing exactly with our specimen, except in the circumstance of the Chives and Pointals being in distinct Flowers. This exception however is noticed in the observations subjoined to the Generic Description, and we find our plant to be the third Species, called the Champion Cuckow-flower.

EXAMPLE VII. CRAB-TREE.

Finding about twenty Chives in each Blossom, we turn to the twelfth Class, which is the Class of twenty Chives. The Introduction to this Class informs us that the number of Chives alone will not distinguish it from the preceding and ensuing Class; we therefore attend to the directions there delivered, and finding in our plant that the Cup is formed of a single concave Leaf; that the Petals are fixed to the sides of the Cup, and that the Chives do not stand upon the Receptacle, we conclude that we have classed it right; and seeing each Flower furnished with five Pointals, we look for the Genus under the fourth Order. This Order contains three Genera. In the lowermost Genus the Cup is fixed below the Seed-bud, but in our Plant it is above the Seed-bud.

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So far it corresponds with the two first Genera. The Cup being cloven into five parts, and the Blossom being composed of five Petals, are circumstances common to both. But the Fruit of the first is a Berry, containing five Seeds, and the fruit of the second is an Apple with five Cells and many Seeds. Hence it appears that our plant is undoubtedly the Apple, No. 203; and turning to the generic description at page 295, we are confirmed in this opinion. We next compare it with the only two British Species, and soon perceive that we have got the Crab apple, or the *Pyrus Malus* of Linnæus.

E X A M P L E VIII. C R O W F O O T.

The beautiful shining yellow Blossoms of Crowfoot, and the frequency of it in pastures in the months of June and July, will probably attract our notice; especially as cattle leave it untouched, even when the pasture is bare. We therefore collect some of it; and finding a great number of Chives in each Blossom, we refer it to the Class of many Chives. The Introduction to this Class tells us, that the Chives stand upon the Receptacle and not upon the Cup. As this appears to be the case, we next examine the pointals, and finding them more than can readily be counted, we refer to the 7th Order of many Pointals. This Order includes eight Genera. The six first that occur have no Cup; but our Flower has a Cup of five Leaves. It is clear then that it must be either No. 228, or No. 229. Upon an accurate examination we observe the Honey-cup at the claw of each Petal, and therefore turn to the generic description of the Crowfoot, page 330. Quite satisfied about the Genus, we observe the Species are numerous, and arranged according as the Leaves are *divided*, or *not divided*. In our specimen the Leaves are divided. We then compare it with each of the Species, and find it to be the upright Crowfoot, or the *Ranunculus Acris* of Linnæus.

EXAM-

E X A M P L E IX. A R C H A N G E L.

Or white or red Deadnettle. It grows every where upon ditch-banks, amongst rubbish, and in orchards.

Upon opening the Blossom we find four Chives, and as two of the Chives are considerably longer than the other two, we expect to find it in the 14th Class. After reading the Introduction to that Class, we have no doubt of having classed it right. We then observe that the two Orders in this Class are characterised from the Seeds being naked, or covered. In our specimen we find four naked Seeds at the bottom of the Cup; so that it belongs to the first Order. This Order admits of two subdivisions, founded upon the clefts of the Cup; our plant arranging under Cups with five Clefts, we carefully compare it with each of the generic characters; and after some difficulty; guided by the bristle-shaped tooth on each side the lower lip of the Blossom; we pronounce it to be Archangel, No. 237. We shall get but little further information from the Generic Description; for this Class being a natural assemblage of plants greatly resembling each other, the Generic Differences are not very obvious. Upon reading the characters of the three British Species, we are soon determined by the taper-pointed, heart-shaped Leaves, to call it the White Archangel, or the *Lamium Album* of Linnæus.

E X A M P L E X. W A L L F L O W E R.

This plant is very generally known. It grows wild upon old walls, and is frequently cultivated in gardens.

Carefully remove the Empalement and the Petals, and you will find six Chives; two of which are shorter

than the other four. It belongs therefore to the fifteenth Class. The Orders of this Class depend upon the form of the Seed-vessel; and after examining the specimen, you refer it to the first subdivision of the second Order; for the Seed-vessel is long, and the Leaves of the Cup stand upright and close to the Blossom. It is possible you must dissect several Flowers before you can ascertain the Genus; for this Class is composed of a natural assemblage of plants, whose Flowers bear a strong resemblance to each other, and the differences when this is the case, are not very obvious. At length however, the small glandular substance on each side the base of the Seed-bud determines you to refer it to No. 272, Wall-flower. Upon a comparison with the Generic Description at page 401, you find it accurately described; and the shape of the Leaves puts it beyond a doubt that it is the yellow Wall-flower, or the *Cheiranthus Cheiri* of Linnæus.

EXAMPLE XI. MARSHMALLOW.

It naturally grows in salt marshes, but upon account of its medical uses it is cultivated in most gardens, and is pretty generally known.

Upon examining the Flower, we find the Chives numerous, and the Threads all united at the Base. Recollecting that this circumstance characterises the Flowers of the sixteenth Class, we find the Orders in that Class depend upon the number of Chives; and observing that the Flowers before us contain more than ten Chives, we must expect to find the plant in the ORDER of *many* Chives. The three Genera contained in that Order nearly resemble each other; but the outer Cup being cloven into nine parts, we *must* suppose it No. 287. Under that Genus at page 430, we find only one Species, and

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as our plant agrees both in the generic description and the specific character, we pronounce it to be the common Marshmallow, or the *Althæa Officinalis* of Linnæus.

EXAMPLE XII. BROOM.

From the appearance of the Chives, which are all united by the Threads, we should be at a loss whether to expect this plant in the sixteenth or in the seventeenth Class; but the butterfly-shape of the Blossom, determines us to the latter. After reading the Introduction to that Class (*at page 431*) we observe that the Orders depend upon the number of Chives. The Flowers of our plant contain ten Chives; and as the Threads are all united, we are at no loss to see, that it belongs to the first subdivision of the fourth Order. We now compare it with the Generic Characters; but as the Genera of this Class are a natural assemblage, and from their similarity admit of one general Natural Character, the differences betwixt each Genus must depend upon minute circumstances, and therefore demand a good deal of attention. At length we perceive that it can be no other than the Broom, No. 290. Comparing it therefore with the Generic Description (*page 440*) and still further confirmed by the character of the species, we pronounce it to be the common Broom, or the *Spartium Scoparium* of Linnæus.

EXAMPLE XIII. DANDELION.

This plant is in blossom during great part of the spring and summer; it grows in pastures, road-sides, and the uncultivated parts of gardens. At the first view we perceive its structure to be very different from any we have examined before; we hardly know what to call Chives

or

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or what Pointals. The fact is this; this is a true compound flower, or a flower formed of a number of flowers sitting upon one common Receptacle, and inclosed by one common Empalement. Turning to COMPOUND FLOWERS and FLORETS in the Glossary, and reading the explanation of Compound Flowers in the fourth plate, we soon attain a true idea of the matter; and therefore separating one of the Florets and examining it carefully, we find five Chives with the Tips united, and the Pointal passing through the cylinder formed by the union of the Tips. We therefore refer it to the nineteenth Class. By reading the Introduction to that Class, we understand still more clearly the nature of Compound Flowers and the Florets that compose them. We learn too how the Orders are constituted; and upon examining the Flower before us, and finding that all the Florets are furnished with Chives and Pointals, we perceive that it belongs to the first Order. From the shape of the Blossoms of the Florets, which are all long and narrow, we know that we must look in the first subdivision of that Order. Perceiving, that the Receptacle is an important affair in the character of these sort of Flowers, we pull off all the Florets in one of the Flowers, and expose the Receptacle to view. We find it naked; *that is* not beset with chaffy or bristly substances. We find too a downy Feather adhering to the Seeds; and observe the Scales of the Empalement flexible. These characters correspond with no other genus but Dandelion No. 312. Therefore we look for the generic description (p. 482) and comparing it with the Flower, experience a pleasing satisfaction from their accurate agreement. There are four species of this genus natives of Great-Britain; we read the specific characters, and find our plant to be the common Dandelion, or the Leontodon Taraxacum of Linnæus.

It will be very proper for the learner thus to examine several more Genera of this Class ; as the Burdock, the Thistle, the Tansy, the Daisie and the Groundsel ; for by this means he will soon overcome every difficulty.

We are at first surprized to find the Violet, and other simple Flowers, in the same Class with the compound Flowers ; but we soon recollect that the classic character is not taken from the appearance of the Blossoms, but from the circumstance of the TIPS being UNITED.

By paying a proper attention to the nature of compound Flowers, we soon learn to distinguish them from double Flowers : and when by accident or cultivation any of the true compound Flowers become double, we shall always find it depends upon the multiplication of some of the parts, and the exclusion of others.

E X A M P L E X I V. C U C K O W P I N T.

Not unfrequent in stiff soils. It generally grows in shady places ; in roughs and at hedge bottoms. It is sometimes called Wake-robin, or Lords and Ladies. It flowers in May.

There is something so very peculiar and unusual in the structure of this Flower, that we find ourselves altogether at a loss how to set about the investigation of it. What shall we call this purplish long substance that stands upright within the Empalement ? We remove the sheathing Empalement to examine the lower part of it, and there we find it surrounded by the Seed-buds. It must therefore be a sort of Fruit-stalk, or an elongated Receptacle. Upon a closer inspection we observe a number of hair-like Fibres or Threads, but without Tips. We now discover something like Tips without Threads, and
from

from their situation we begin to think the plant belongs perhaps to the twentieth Class. As the Tips are numerous and the Orders depend upon the number of Chives, we look for it in the Order of many Chives, where we find two Genera; and from their characters we think it most likely to be the Cuckowpoint No. 353; but we are by no means certain. We turn therefore to that Genus (p. 552) and here we feel every doubt dispelled. The generic description, the specific character, and the observations, all conspire to identify the plant before us; and we congratulate ourselves that we were not puzzled by any common circumstance.

The first Order in this Class requires a particular examination, and if we know the Orchis, or any other Genus contained therein, it will be well to compare it with the descriptions. The Orchis is frequent in moist clayey soils: it bears large Spikes of purplish Flowers, and blossoms in April, May, June and July.

E X A M P L E XV. B I R C H.

The Birch is a tree common enough in Great Britain, and very generally known. The Flowers are disposed in Catkins; some of the Catkins are composed of Florets which contain only Chives, but we find others upon the same tree, whose Florets contain only Pointals. This circumstance makes us refer it to the twenty-first Class. As each of the barren Florets contains four Chives, we look for it in the fourth Order. The Catkins, and the number of Flowers or Florets in each scale corresponding with our specimen, we suppose it the Birch, No. 365. We turn forward to that number, and the generic description at page 576, confirms our supposition. The Species are two, but the shape of the leaves directs us to call our plant the White Birch, or the *Betula alba* of Linnæus.

E X A M-

EXAMPLE. XVI. HOP.

The Hop flowers in June. It grows common in the hedges in many parts of England, though cultivated in few.

We examine many of the Flowers and find five Chives in each, but no appearance of Pointals. We believe therefore that the Chives and Pointals grow upon distinct plants, and accordingly turn to the twenty-second Class. As we have five Chives in each Flower and the Tips not united, we find it in the fifth Order. That Order containing only one Genus, there can be no room for doubt. We therefore call it Hop, No. 383. The generic description at page 611 corresponds; and if we afterwards meet with a plant bearing only fertile Flowers, we find that described likewise. There is only one Species, viz. the Brewer's Hop, or the *Humulus lupulus* of Linnæus.

The plants of the twenty-third Class are investigated nearly in the same manner; so that particular illustrations of that Class would be unnecessary. The common Ash, and the yellow Cross-wort are frequent enough, and easily attainable, so that the student may take these as examples upon which to exercise his skill.

It still remains to say something of the twenty-fourth Class. The plants in this Class are not arranged like the other parts of the system, and therefore cannot be investigated in the same manner. They are divided into four natural assemblages, FERNS, MOSSES, THONGS, and FUNGUSES. These partake of nothing in common, that can with propriety bring them into the same Class, unless it be the difficulty of discerning their minute and inconspi-

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conspicuous Flowers. The generic and specific characters being taken from their general external appearance, we can only recommend a careful perusal of the Introduction to the Class, and an intimate acquaintance with the terms. This being done, there will be no great difficulty in ascertaining the Species.

AFTER conducting my Pupils in this familiar manner through the different parts of the System, they no longer stand in need of my assistance. They find themselves equal to the investigation of every unknown British plant that comes before them. But this is not all: They will find that the Study of Nature is ever attended with pleasing reflections; that the Study of Botany in particular, independant of its immediate use, is as healthful as it is innocent. That it beguiles the tediousness of the road, and furnishes amusement at every footstep of the solitary walk.

I cannot bid them a more cordial farewell, than by wishing they may experience in this pursuit, a pleasure equal to that felt by

BIRMINGHAM,

May 22, 1776.

The AUTHOR.

The Author will thankfully receive any communications that can tend to render this book more perfect; and in case the public ever calls for a second edition, such new facts or observations as occur, shall be inserted, with suitable acknowledgements.

DIREC-

D I R E C T I O N S

F O R

DRYING and PRESERVING

SPECIMENS of PLANTS.

MANY methods have been devised for the preservation of plants ; we shall relate only those that have been found most successful.

First prepare a press, which a workman will make by the following directions.

Take two planks, of a wood not liable to warp. The planks must be two inches thick, eighteen inches long, and twelve inches broad. Get four male, and four female screws ; such as are commonly used for securing sash windows. Let the four female screws be let into the four corners of one of the planks, and corresponding holes made through the four corners of the other plank for the male screws to pass through, so as to allow the two planks to be screwed tightly together. It will not be amiss to face the bearing of the male screws upon the wood, with iron plates ; and if the iron plates went across from
corner

corner to corner of the wood, it would be a good security against the warping.

Secondly, get half a dozen quires of large soft spongy paper; such as the stationers call Blossom blotting paper, is the best; and a few sheets of strong paste-board.

The plants you wish to preserve should be gathered in a dry day, after the sun hath exhale the dew; taking particular care to collect them in that state wherein their generic and specific characters are most conspicuous. Carry them home in a tin box nine inches long, four inches and a half wide; and one inch and a half deep. Get the box made of the thinnest tinned iron that can be procured; and let the lid open upon hinges. If any thing happens to prevent the immediate use of the specimens you have collected, they will be kept fresh two or three days in this box, much better than by putting them in water. When you are going to preserve them suffer them to lie upon a table until they become limber, and then they should be laid upon a paste-board, as much as possible in their natural form; but at the same time with a particular view to their Generic and Specific characters. For this purpose it will be adviseable to separate one of the flowers and to display the generic character. If the specific character depends upon the flower or upon the root, a particular display of that will be likewise necessary. When the plant is thus disposed upon the paste-board, cover it with eight or ten layers of spongy paper, and put it into the press. Exert only a small degree of pressure for the first two or three days; then examine it, unfold any unnatural plaits, rectify any mistakes, and after putting fresh paper over it, screw the press harder. In about three days more, separate the plant from the paste-board, if it is sufficiently firm to allow of a change of

of place ; put it upon a fresh pasteboard, and covering it with fresh blossom-paper, let it remain in the press a few days longer. The press should stand in the sun-shine, or within the influence of a fire.

When it is perfectly dry, the usual method is to fasten it down with paste or gum water, on the right hand inner page of a sheet of large strong writing-paper. It requires some dexterity to glue the plant neatly down, so that none of the gum or paste may appear to defile the paper. Press it gently again for a day or two, with a half sheet of blossom-paper betwixt the folds of the writing-paper. When it is quite dry, write upon the left hand inner page of the paper, the name of the plant ; the specific character ; the place where, and the time when it was found ; and any other remarks you think proper. Upon the back of the same page, near the fold of the paper, write the name of the plant, and then place it in your cabinet. A small quantity of finely powdered arsenic, or corrosive sublimate, is usually mixed with the paste or gum water, to prevent the devastations of insects ; but the seeds of Staves-acre finely powdered, will answer the same purpose, without being liable to corrode or to change the colour of the more delicate plants. Some people put the dried plants into the sheets of writing-paper, without fastening them down at all ; and others only fasten them by means of small slips of paper, pasted across the stem or branches. In the twenty-fourth Class some of the Genera contain a great number of species ; where this is the case, and the specimens are small, several of them may be put into one sheet of paper.

Another more expeditious method is to take the plants out of the press, after the first or second day ; let them remain upon the pasteboard ; cover them with five or six
d leaves

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leaves of blossom paper, and iron them with a hot smoothing iron, until they are perfectly dry. If the iron is too hot it will change the colours; but some people, taught by long practice, will succeed very happily. This is quite the best method to treat the Orchis and other slimy mucilaginous plants.

Another method is to take the plants, when fresh gathered, and instead of putting them into the press, immediately to fasten them down to the paper with strong gum-water: then dip a camel-hair pencil into spirit-varnish, and varnish the whole surface of the plant two or three times over. This method succeeds very well with plants that are readily laid flat, and it preserves their colours better than any other. The spirit varnish is made thus. To a quart of highly rectified spirit of wine, put five ounces of gum sandarach; two ounces of mastich in drops; one ounce of pale gum elemy and one ounce of oil of spike lavender. Let it stand in a warm place, and shake it frequently to expedite the solution of the gums.

Where no better convenience can be had, the specimens may be disposed systematically in a large folio book; but a vegetable cabinet is upon all accounts more eligible. In plate the XII, you have a section of a cabinet, in the true proportions it ought to be made, for containing a compleat collection of British plants. By the assistance of this drawing, and the adjoining scale, a workman will readily make one. The drawers must have backs and sides, but no other front than a small ledge. Each drawer will be fourteen inches wide, and ten inches from the back to the front, after allowing half an inch for the thickness of the two sides, and a quarter of an inch for the thickness of the back. The sides of the drawers, in the part next the front, must be sloped off in a serpentine

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li

tine line, something like what the workmen call an ogee. The bottoms of the drawers must be made to slide in grooves cut in the uprights, so that no space may be lost betwixt drawer and drawer. After allowing a quarter of an inch for the thickness of the bottom of each drawer, the clear perpendicular space in each must be as in the following table.

- | | |
|------------------------------------|-------------------------------------|
| I. Two tenths of an inch. | XIII. Two inches and four tenths. |
| II. One inch and two tenths. | XIV. Three inches and eight tenths. |
| III. Four inches and six tenths. | XV. Three inches and four tenths. |
| IV. Two inches and three tenths. | XVI. One inch and three tenths. |
| V. Seven inches and eight tenths. | XVII. Two inches and eight tenths. |
| VI. Two inches and two tenths. | XVIII. Six tenths of an inch. |
| VII. Two tenths of an inch. | XIX. Ten inches. |
| VIII. One inch and four tenths. | XX. One inch and nine tenths. |
| IX. Two tenths of an inch. | XXI. Four inches and four tenths. |
| X. Two inches and eight tenths. | XXII. Two inches and six tenths. |
| XI. One inch and two tenths. | XXIII. One inch and two tenths. |
| XII. Three inches and five tenths. | XXIV. Seventeen inches. |

This cabinet shuts up with two doors in front, and the whole may stand upon a base, containing a few drawers, for the reception of duplicates and papers.

The line forming like what the workmen call an eye. The bottoms of the drawers must be made to slide in grooves cut in the uprights, so that no space may be left between drawer and drawer. After allowing a quarter of an inch for the thickness of the bottom of each drawer, the clear perpendicular space in each must be as in the following table.

I. Two tenths of an inch.	XIII. Two inches and four tenths.
II. One inch and two tenths.	XIV. Three inches and eight tenths.
III. Four inches and six tenths.	
IV. Two inches and three tenths.	
V. Seven inches and eight tenths.	
VI. Two inches and two tenths.	
VII. Two tenths of an inch.	
VIII. One inch and four tenths.	
IX. Two tenths of an inch.	
X. Two inches and eight tenths.	
XI. One inch and two tenths.	
XII. Three inches and five tenths.	
XIII. Seven inches.	

ABBREVIATIONS

In the GENERIC Characters.

- B. Flowers without Pointals.
- F. Flowers without Chives.
- H. Flowers with Chives and Pointals.

In the SPECIFIC Characters.

- A. Annual.
- B. Biennial.
- P. Perennial.
- S. A Shrub or a Tree.

I N D E X.

The English Genera are expressed in Capitals, the Latin Generic names in Italic, and the Synonyms in Roman Characters.

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ONE CHIVE.

CLASS I.

ONE CHIVE.

ORDER I.

ONE POINTAL.

1. MARETAIL. *Empalement* none. *Blossom* none,
2. GLASSWORT. *Empalement* of one leaf. *Blossom* none,
† Parsley-piert.

ORDER II.

TWO POINTALS.

3. STARGRASS. *Empal.* none. *Bloss.* two petals. *Capsule* two cells.

O N E C H I V E.

1. MARESTAIL. 11 Hippuris. *Linnæi Syst. Naturæ.*

EMPALEMENT, None.

BLOSSOM, None.

CHIVE, *Thread* single, growing upon the receptacle of the flower. *Tip* slightly cloven.

POINTAL, *Seedbud* oblong; superior. *Shaft* single; awl-shaped; upright; longer than the chive; situated betwixt the chive and the stem. *Summit* sharp; simple.

SEED VESSEL, None.

SEED, Single, roundish, naked.

Common
Vulgaris

MARESTAIL. As there is only one species known, *Linnaeus* gives no description of it. — *Leaves* narrow; growing in whorls round the joints, twelve or more at each joint. Flowers equal in number to the leaves. Stem straight; jointed.

Limnopence. *Ray's Syn.* 136.

Equisetum palustre brevioribus foliis, polyspermum. *Bauh.* pin. 15.

Cauda equina fœmina. *Gerard.* 1114.

Equisetum palustre alterum, brevioribus setis. *Park* 1200.

In muddy ponds and ditches. P. May.

The Flower of this plant is found at the base of each leaf, and is as simple as can be conceived; there being neither empalement nor blossom; and only one chive, one pointal, and one seed. — It is a very weak astringent. — Goats will eat it; but Cows, Sheep, Horses and Swine refuse it.

2 GLASSWORT. 10 Salicornia.

EMPAL. Four-edged; lopped; distended; permanent.

BLOSS. None.

CHIVE. *Thread* single, simple; longer than the cup. *Tip* double; oblong; upright.

POINT. *Seedbud* oblong, egg-shaped. *Shaft* simple, standing under the chive. *Summit* cloven.

S.VESS. None, the cup distended and permanent, includes the seed.

SEED. Single.

OBS. The number of chives in this genus is not very certain; some having found two in each flower.

GLASSWORT

GLASSWORT with spreading, jointed, herbaceous stems. Jointed Each joint compressed and cloven at the top.—*Flowers three to* Herbacea
gether, placed on each side the stem, in the clefts of the joints.

Salicornia geniculata annua. Rays Syn. 136.

Kali geniculatum annum. Baub. pin. 289. Gerard. 535.

Park. 280.

The varieties are,

1. Branches somewhat woody and trailing. *Ray's Syn. 136.*
2. With very long trailing shoots. *Ray's Syn. 137.*
3. Much branched and trailing. Leaves short, purplish. *Ray's Syn. 137.*
4. Upright with short leaves resembling those of Cypress. *Ray's Syn. 137.*

Marsh Samphire. Saltwort.

Common on the sea shore. A. August. Sept.

From the ashes of this plant a fossile alkaly is obtained, which is in great request for making soap and glass. It is chiefly made on the coast of the Mediterranean sea, and is called Soda. The green plant steeped in salted vinegar makes an excellent pickle, very little inferior to Samphire. The whole plant hath a saltish taste, and is greedily devoured by cattle.

Order II. Two Pointals.

3 STARGRASS. 13 Callitriche.

EMPAL. None.

BLOSS. Two Petals bowed inwards, channelled; tapering to a point, standing opposite to each other

CHIVE. Thread single, long, crooked. Tip simple.

POINT. Seedbud, nearly round. Shafts, two, hair-like, crooked. Summit sharp.

S.VESS. Capsule roundish, a little compressed; with four angles and two cells.

SEEDS. Oblong: two in each cell.

OBS. In the first species the chive and pointal are in separate flowers.

STARGRASS with the upper leaves oval; the chive and Vernal pointals in separate flowers—*Stems feeble, numerous. Blossoms small, Vernal white. Upper leaves growing near together in form of a star. Lower leaves in pairs.*

Stellaria. Ray's Syn. 289.

Stellaria aquatica. Baub. pin. 141. Park 1282.

Alfine palustris serpyllifolia. Gerard. 614.

Star-headed Water Chickweed.

1. Small and creeping. *Ray's Syn. 289.*

Very common in ditches and stagnant waters. A. April. Aug.

Autumnal
Autumnalis STARGRASS with all the leaves strap-shaped and cloven at the end. The chive and pointals in the same flower.—Blossoms yellowish white.

Stellaria aquatica longifolia. Ray's Syn. 290.

In ditches and stagnant waters.. A. Sept.

It sometimes grows so thickly matted together as to allow one to walk upon it without sinking.

CLASS

CLASS II.

TWO CHIVES.

ORDER I. ONE POINTAL.

† *Narrow-leaved Dittander. Shining Willow. Common Ash.*

* *Blossoms of one regular petal; beneath.*

4. **PRIVET.** *Blossom with four clefts. Berry with four seeds.*

** *Blossoms of one irregular petal; beneath. Seeds in a capsule.*

5. **SPEEDWELL.** *Blossom with four divisions in the border; the lower segment narrower than the others.*

6. **BUTTERWORT.** *Bloss. gaping; furnished with a spur. Empalement cloven into five parts.*

7. **BLADDERWORT.** *Bloss. gaping; furnished with a spur. Empalement of two leaves.*

*** *Blossoms of one irregular petal; beneath. Seeds naked.*

8. **GYPSIE.** *Bloss. nearly equal. Chives distant from each other.*

9. **CLARY.** *Bloss. gaping. Threads very short; each supporting a cross-thread.*

† *Jointed Glasswort.*

**** *Blossoms superior.*

10. **CINCE.** *Cup of two leaves. Bloss. two petals; inversely heart-shaped.*

Order II. Two Pointals.

11. **VERNALGRASS.** *Husks oblong; one flower in each. Bloss. a husk furnished with an awn.*

† *Toadgrass.*

B 3

4. **PRIVET.**

TWO CHIVES.

4 PRIVET. 18 Ligustrum.

EMPAL. *Cup* of one leaf; tubular; very small; with four upright blunt teeth in its rim.

BLOSS. One funnel shaped petal, the *Tube* cylindrical, longer than the empalement. *Border* expanded; divided into four egg-shaped *Segments*.

CHIVES. *Threads* two; simple, opposite. *Tips* upright, nearly as long as the Blossom.

POINT. *Seedbud* nearly round. *Shaft* very short. *Summit*, thick, blunt, cloven.

S.VESS. *Berry* globular, smooth; of one cell.

SEEDS. Four; convex on one side; angular on the other.

Common
Vulgare

PRIVET. As there is only one species known, Linnæus gives no description of it—*Leaves* growing in pairs. Blossoms white. Berries black

Ligustrum. Gerard. 714. Park. 1446. Ray's Syn. 465.

Ligustrum germanicum. Baub. pin. 475.

Prim.

1. The leaves are sometimes variegated with white or yellow stripes.

In the hedges in gravelly soils. S. May. June.

It is planted to make hedges—the purple colour upon cards is prepared from the berries—With the addition of alum, the berries dye wool and silk of a good and durable green; for this purpose they must be gathered as soon as they are ripe—the leaves are bitter, and slightly astringent.—Oxen, Goats and Sheep eat it. Horses refuse it.

The insects observed to feed upon this plant are the *Privet Hawk Moth*, *Sphinx Ligustri*—*Richmond Beauty*, *Phalæna Syringaria*.

5 SPEEDWELL. 25 Veronica.

EMPAL. Cup with four divisions; permanent; the segments spear-shaped; sharp.

BLOSS. Wheel-shaped; of one petal. Tube nearly as long as the empalement. The border flat, divided into four egg-shaped segments; the lower segment narrowest, and that opposite to it the broadest.

CHIVES. Threads two; thinnest at the bottom; ascending. Tips oblong.

POINT. Seedbud compressed. Shaft thread-shaped, declining; as long as the chives. Summit simple.

S. VESS. Capsule inversely heart-shaped, compressed at the point; with two cells and four valves.

SEEDS. Several, roundish.

OES. The tube of the blossom is different in different species; in most it is very short, but in the three first species it is longer.

* Flowers growing in Spikes.

SPEEDWELL with a terminating spike; and opposite, blunt, scolloped leaves. Stem ascending; undivided—*Blossoms blue.* Spiked Spicata

Veronica Spicata minor. *Bauh. pin.* 247. *Ray's Syn.* 279.

Veronica recta minima. *Gerard.* 627.

Veronica erecta angustifolia. *Park.* 550.

Upright spiked male Speedwell, or Fluellin.

In meadows and pastures. P. June.

Cows and Sheep will eat it. Goats and Horses refuse it.

SPEEDWELL. Spikes terminating; leaves opposite, bluntly serrated, rough, stem upright—*About a span long. Spike large and thick. Blossoms blue. This seems to be the product of the first species fertilized by the dust of the third species.* Bastard Hybrid

Veronica Spicata Cambro-Britannica, bugulæ subhirsuto folio.

Ray's Syn. 278. tab. 11.

Welsh Speedwell. Bugle leaved Speedwell.—On the sides of mountains in Wales; particularly in Montgomeryshire.

On Craig Wreidhin. P. July.

Common
Officinalis

SPEEDWELL with spikes on lateral fruit-stalks; leaves opposite; stem trailing—Blossoms *blue: scored*. Leaves *elliptical, serrated, hairy*. Little fruit-stalks shorter than the floral leaves.

Veronica mas supina et vulgatissima. Baub. pin. 246. Ray's Syn. 281.

Veronica vera et Major. Gerard. 626.

Veronica mas vulgaris et supina. Park 550.

Male Speedwell. Fluellin.

In barren ground and on heaths. P. May.

The leaves have a small degree of astringency, and are somewhat bitter. An infusion of them is recommended by Hoffman, as a substitute for tea; but it is more astringent and less grateful than the Indian herb.—It is eaten by Cows, Sheep, Goats and Horses. Swine refuse it.

* * Flowers in broad bunches.

Smooth
Serpyllifolia

SPEEDWELL with terminating bunches, nearly resembling a spike. Leaves smooth; egg-shaped; scolloped—Blossoms *pale blue*.

Veronica pratensis serpyllifolia. Baub. pin. 247.

Veronica pratensis minor. Park. 551. Ray's Syn. 279.

Veronica minor. Gerard. 627.

Paul's Betony. Little Speedwell.

In meadows and pastures; not uncommon. P. May.

Sheep will eat it.

Brooklime
Beccabunga

SPEEDWELL with lateral bunches; a creeping stem; and flat egg-shaped leaves—Blossoms *blue*. Leaves *sitting; serrated*.

Veronica aquatica rotundifolia Beccabunga dicta minor. Ray's Syn. 280.

Anagallis aquatica minor, folio subrotundo. Baub. pin. 252.

Anagallis aquatica vulgaris, five Beccabunga. Park. 1236.

Anagallis five Beccabunga. Gerard. 620.

Common Brooklime.

In ditches and rivulets. P. June.

The leaves are mild and succulent, and are eaten in fallads along with other early springing plants.—Cows, Goats and Horses eat it. Swine refuse it.

This and some other species of Speedwell afford nourishment to the *Plantain Fritillary*, *Papilio Cinxia*—*Black Curculio*, *Curculio Beccabungæ* and *Chrysomela Beccabungæ*.

SPEEDWELL with lateral bunches an upright stem, and Pimpernel
 spear-shaped ferrated leaves—Blossoms *pale purple*. Anagallis

Veronica aquatica longifolia media. Ray's Syn. 280.

Anagallis aquatica minor, folio oblongo. Baub. pin. 252.

Anagallis aquatica folio oblongo crenato. Park. 1237.

Anagallis aquatica minor. Gerard. 620.

Long leaved Water Speedwell.

In ditches and shallow ponds. P. July.

Cows, Goats and Sheep eat it. Horses and Swine refuse it.

SPEEDWELL with alternate lateral bunches; little fruit- Narrowleaved
 stalks pendant; and very entire strap-shaped leaves—Blossoms Scutellata
white or purplish.

Veronica aquatica angustifolia minor. Ray's Syn. 280.

Anagallis aquatica angustifolia scutellata. Baub. pin. 252.

Narrow leaved Water Speedwell or Pimpernel.

In poor swampy soil. P. June.

It is eaten by Cows, Goats, Sheep and Horses. Swine refuse it.

SPEEDWELL with lateral bunches of only few flowers; Stalked
 cup rough with hair, leaves wrinkled eggshaped, scolloped, Montana
 standing on leaf-stalks. Stem feeble—Blossoms *pale blue*. Leaves
red on the under surface.

Veronica chamædryoides foliis pediculis oblongis infidentibus.

Ray's Syn. 281.

Chamædryi spuria affinis, rotundifolia scutellata. Baub.
 pin. 249.

Mountain madwort.

In hedges and moist woods. P. May.

SPEEDWELL with lateral bunches; leaves egg-shaped, Germaner
 wrinkled, toothed; without leaf-stalks. Stem feeble—the seg- Chamædrys
ments of the cup unequal, spear-shaped, beset with hairs at the edges.
Bunches of flowers long, opposite, upright. Summit white; Blossoms
blue.

Chamædrys sylvestris. Gerard. 657. Ray's Syn. 281.

Chamædrys spuria minor rotundifolia. Baub. pin. 249.

Chamædrys spuria sylvestris. Park. 107.

Wild Germaner.

In pastures. P. May.

The leaves are a better substitute for tea than those of the
 common Speedwell, being more grateful and less astringent.—
 Cows and Goats eat it. Sheep, Horses and Swine refuse it.

*** *Fruitstalks with one Flower.*

Chickweed
Agrestis

SPEEDWELL with solitary flowers; leaves heart-shaped; jagged; shorter than the fruit-stalk—*Segments of the cup, egg-shaped; equal.* Seeds *four in each cell of the capsule.* Blossoms blue.

Veronica floribus singularibus, in oblongis pediculis Chamædryfolia. *Ray's Syn* 279.

Alfne foliis Trifraginis. *Gerard.* 616. *Park.* 760.

Alfne Chamædryfolia, flosculis pediculis oblongis infidentibus. *Bauh. pin.* 250.

Germander leaved Speedwell.

In pastures and ploughed fields. A. May.

Cows, Goats, Sheep and Horses eat it.

Wall
Arvensis

SPEEDWELL with solitary flowers. Leaves heart-shaped; jagged; longer than the fruit-stalk—*Segments of the cup, spear-shaped, unequal.* Blossoms pale blue. *The upper leaves have no leaf-stalks.*

Veronica flosculis singularibus, cauliculis adhærentibus.

Ray's Syn. 279.

Alfne veronicæ foliis, flosculis cauliculis adhærentibus.

Bauh. pin. 250.

Alfne foliis veronicæ. *Gerard.* 613.

Alfne foliis subrotundis veronicæ. *Park.* 762.

Speedwell or Chickweed.

Upon old walls, amongst rubbish, and in fallow fields. A. May.

Horses eat it.

Ivy-leaved
Hederifolia

SPEEDWELL with solitary flowers. Leaves heart-shaped; flat; divided into five lobes—*Seeds with a dimple at the top; two in each cell of the capsule.* *Segments of the cup heart-shaped.* Blossoms blue.

Veronica flosculis singularibus, hederulæ folio, morsus gallinæ minor dicta. *Ray's Syn.* 280.

Alfne hederulæ folio. *Bauh. pin.* 250.

Alfne hederulæ folio minor. *Park.* 760.

Alfne hederacea. *Gerard.* 616.

Small Henbit.

Ditch-banks; ploughed fields. A. April. May.

Cloven
Triphyllos

SPEEDWELL with solitary flowers. Leaves deeply divided into fingers; fruit-stalks longer than the cup—*Blossoms blue.*

Veronica flosculis singularibus, foliis laciniatis, erecta.

Ray's Syn. 280.

Alfne triphyllos cærulea. *Bauh. pin.* 250.

Alfne triphyllos five laciniata. *Park.* 760.

Alfne recta. *Gerard.* 612.

Trifid Speedwell.

In sandy fields. A. May. June.

Cows, Goats and Sheep eat it.

6 BUTTERWORT. 30 Pinguicula.

EMPAL. *Cup* gaping; small; sharp; permanent. *Upper lip* upright; with three clefts; *lower lip* reflected; cloven.

BLOSS. One petal, gaping. The *longer lip* straight, blunt, with three clefts; falling back: the *shorter lip* cloven, more blunt and more expanding, being an expansion of the lower and hinder part of the petal. *Honey-cup* horn-shaped.

CHIVES. *Threads* two; cylindrical; crooked; ascending; shorter than the cup. *Tips* roundish.

POINT. *Seedbud* globular. *Shaft* very short. *Summit* with two lips; the *upper lip* large; flat; reflected; covering the tips; the *lower lip* short; very narrow; upright; cloven.

S. VESS. *Capsule* egg-shaped; of one cell; compressed and opening at the point.

SEEDS. Many; cylindrical. *The Receptacle* loose.

BUTTERWORT with a honeycup growing thicker towards Cornwall—the point—*Blossoms pale red. Leaves lying in a circle upon the Lufitanica ground.*

Pinguicula flore minore carneo. Ray's Syn. 281.

On the bogs in Cornwall. P. May.

Refused by Cows, Goats, Sheep, Horses and Swine.

BUTTERWORT with a cylindrical honey-cup, the length Common of the Petal—*Leaves covered with soft, upright, pellucid prickles; Vulgaris. secreting a glutinous liquor. Blossoms pale red, or purple; but sometimes white.*

Pinguicula gesneri. Ray's Syn. 281.

Pinguicula five fanicula eboracensis. Park. 532. Gerard. 788.

Sanicula montana Flore calcari donato. Baub. pin. 243.

Yorkshire Sanicle.

On bogs. P. May.

If the fresh gathered leaves of this plant are put into the filtre or strainer through which the warm milk from the Cow is poured, and the milk is set by for a day or two to become aced, it acquires a consistence and tenacity, the whey does not sepearate, nor does the cream; in this state it is an extremely grateful food, and as such is used by the inhabitants in the North of Sweden. There is no further occasion to have recourse to the leaves, for half a spoonful of this prepared milk, mixed with fresh warm milk, will convert it to its own nature; and this again will change

change another quantity of fresh milk, and so on without end—The juice of the leaves kills lice; the common people use it to cure the cracks or chops in Cows elders—The plant is generally supposed injurious to Sheep: occasioning a disease which the farmers call the Rot. But it may be made a question whether the Rot in Sheep is so much owing to the vegetables in marshy grounds as to a flat insect called a Fluke (*Fasciola hepatica*) which is found in these wet situations adhering to the stones and plants, and likewise in the livers and biliary ducts of Sheep that are affected with the Rot.—From experiments made on purpose, and conducted with accuracy, it appears that neither Sheep, Cows, Horses, Goats or Swine will feed upon this plant.

7 BLADDERWORT. 31 Utricularia.

EMPAL. Cup of two leaves; the leaves very small; egg-shaped; concave; deciduous.

BLOSS. One petal, gaping. Upper lip flat, blunt, upright. Lower lip large, flat, entire. A heart-shaped palate standing prominent betwixt the lips. A Honeycup like a little horn grows from the base of the petal.

CHIVES. Threads two; very short; bent inwards. Tips small and adhering together.

POINT. Seedbud globular. Shaft thread-shaped; as long as the cup. Summit conical.

S. VESS. Capsule large; globular; of one cell.

SEEDS. Many.

OES. The plants of this genus are very remarkable; the roots being loaded with small membranaceous bladders.

Common
Vulgaris.

BLADDERWORT with a conical honeycup, and a stalk bearing but few flowers.—Honeycup awl aped, as long as the lower lip, and contiguous thereto. Mouth closed by a prominent palate. Blossoms yellow.

Lentibularia. Ray's Syn. 286.

Millefolium aquaticum lenticulatum. Bauh. pin. 141.

Millefolium aquaticum flore luteo galericulato. Park. 1258.

Millefolium palustre galericulatum. Gerard. 828.

Common hooded Milfoil.

In wet ditches and stagnant waters. P. June. July.

BLADDER-

BLADDERWORT with a keelshaped honeycup—pointing Lesser downwards. Mouth open. Roots hair-like, very small, swimming, Minor beset with small membranaceous bladders. Stalk as long as ones finger, simple, very slender; dividing towards the top into three fruitstalks with three floral leaves. Root-leaves winged, hair like; little leaves few; equal. Cup with the lower leaf reflected. Blossom of two petals, gaping. Upper lip horizontal, heartshaped, perforated at the base, fixed to the receptacle. Lower lip larger; heart-shaped; reflected at the sides; hunched at the base on the under side, prominent and keel-shaped. Seedbud egg-shaped. Shaft simple, short. Summit betwixt egg and tongue shaped. Blossom a paler yellow than the preceding species.

Lentibularia minor. Ray's Syn. 286.

Lesser hooded Milfoil.

In ditches and muddy ponds. P. June. July.

8 G Y P S I E. 33 Lycopus.

EMPAL. Cup of one tubular leaf, with five shallow clefts; the segments narrow and sharp.

BLOSS. One unequal petal. Tube cylindrical; as long as the cup. Border with four clefts; blunt, open; the segments nearly equal, but the lowermost somewhat smaller, and the uppermost somewhat broader than the others, and imperfect at the margin.

CHIVES. Threads two; distant; generally longer than the blossom, and bending under its upper segment. Tips small.

POINT. Seedbud with four clefts. Shaft thread-shaped; straight; as long as the chives. Summit cloven; reflected.

S. VESS. None. The seeds lying at the bottom of the cup.

SEEDS Four; roundish.

GYPSIE with indented ferrated leaves—Blossoms whitish; Water surrounding the stem at the joints. Leaves opposite; sitting. Stem Europæus four cornered.

Lycopus palustris glaber. Ray's Syn. 236.

Marrubium palustre glabrum. Baub. pin. 230.

Marrubium aquaticum. Gerard. 700. vulgare. Park. 1230.

Water horehound.

1. There is a variety in which the leaves are very much divided. Upon the banks of rivers and ponds, in sandy grounds. P. July.

The

The juice gives a permanent colour to linen, wool and silk, that will not wash out; travelling gypsies stain their faces with it—Sheep and Goats eat it. Cows and Horses refuse it—The Green Tortoise Beetle (*Cassida viridis*), feeds upon it.

9 CLARY. 39 Salvia.

EMPAL. *Cup* of one leaf, tubular, scored; enlarging gradually upwards and compressed at the top; the *Rim* upright; having two lips; the *lower lip* with two teeth.

BLOSS. A single petal; the *Tube* compressed, enlarging gradually upwards. *Border* gaping; *upper lip* concave, compressed; bowed inwards; notched at the end. *Lower lip* broad; with three clefts; the *middle segment* largest, roundish and broken at the margin.

CHIVES *Threads* two; very short supporting two others cross-ways by the middle, which have *glands* at one end, and *Tips* at the other.

POINT. *Seed-bud* with four clefts. *Shaft* thread-shaped; very long; adjoining the chives. *Summit* cloven.

S. VESS. None; the *cup* closing a little, contains the seeds in its bottom.

SEEDS Four; roundish.

OBS. *The singular cross thread of the chives constitutes the essential character of this genus. The rudiments of two chives appear in the mouth of the blossom, but they have no tips. The glands in most species are callous, but in a few they appear like tips, and sometimes contain a small quantity of dust.*

Meadow
Pratensis

CLARY with oblong heart-shaped, scolloped leaves; the upper leaves embracing the stem; the flowers in whorls with hardly any intermixture of leaves; the helmet of the blossom gummy.—*Blossom* four times as large as the cup; bluish purple. *Leaves* a full green.

Sclarea pratensis foliis ferratis, flore cæruleo. Ray's Syn. 237.

Horminum pratense foliis ferratis. Baub. pin. 238.

Horminum sylvestre vulgare. Park. 55.

Horminum sylvestre Fuchsii. Gerard. 760.

In Essex, but not common. P. July.

Sheep and Goats eat it. Cows and Horses refuse it.

CLARY

CLARY with indented serrated smoothish leaves; the blossoms more slender than the cup.—*The lips approach near together.* Wild Verbenaca
The leaves are sometimes indented in a winged manner. Blossoms blue.

Horminum sylvestre Lavendulæ flore. Baub. pin. 239. Park. 57.

Ray's Syn. 237. Gerard. 760.

Common English Wild Clary.

In pastures and meadows. P. May. September.

10 CIRCE. 24 Circæa.

EMPAL. Cup of two egg-shaped, concave leaves; a little bent outwards; deciduous.

BLOSS. Petals two; inversely heart-shaped; expanding; equal; commonly shorter than the cup.

CHIVES Threads two; hairlike; upright; as long as the cup. Tips roundish.

POINT. Seedbud turban-shaped: beneath. Shaft thread shaped, as long as the cup. Summit blunt; notched at the end.

S. VESS. Capsule betwixt egg and turban-shaped; covered with strong hairs; with two cells, and two valves; opening from the base upwards.

SEEDS. Solitary; oblong, narrow towards the base.

CIRCE with upright Stems supporting several bunches of flowers, and egg-shaped leaves.—*Petals like the cup leaves.* Common
 Blossoms whitish. Lutetiana

Circæa lutetiana. Gerard. 351. Ray's Syn. 289.

Circæa lutetiana major. Park. 351.

Solanifolia Circæa dicta major. Baub. pin. 168.

Enchanters Nightshade.

In moist hedge bottoms. P. July.

It is eaten by Sheep.

CIRCE with trailing stems supporting a single bunch of flowers, and heart-shaped leaves.—*Blossoms reddish.* Mountain
 Alpina

Solanifolia Circæa alpina. Baub. pin. 168.

Circæa Lutetiana minor. Park. 351.

Mountain Enchanters Nightshade.

In Yorkshire and Westmoreland. P. August.

It is eaten by Sheep.

Order II. Two Pointals.

II VERNALGRASS. 42 Anthoxanthum.

EMPAL. A *Husk* with two valves containing one flower. The *Valves* concave, eggshaped, taper; the innermost the largest.

BLOSS. A *Husk* of two valves, the length of the larger valve of the empalement. Each valve sends out an awn from its back, at the lower part; and one of the awns is jointed. *Honeycup* of two leaves, very slender, cylindrical. The leaves nearly egg-shaped, and one enfolding the other.

CHIVES *Threads* two; hair-like; very long. *Tips* oblong; forked at each end.

POINT. *Seedbud* oblong. *Shafts* two; thread-shaped. *Summits* simple.

S. VESS. The *Husk* of the blossom grows to the seed.

SEED. Single, cylindrical, tapering at each end.

Odoriferous
Odoratum

VERNALGRASS with an oblong egg-shaped spike; the florets growing on little fruit-stalks, longer than the awns—*Spike yellowish green.*

Gramen Venum spica brevi laxa. Ray's Syn. 398.

Gramen pratense Spica flavescente. Baub. pin. 3.

Spring Grass.

Meadows. P. May.

The delightful smell of new mown hay arises chiefly from this plant. It is one of the earliest Spring Grasses, and is extremely common in our fertile pastures.

Cows, Goats, Sheep and Horses eat it.

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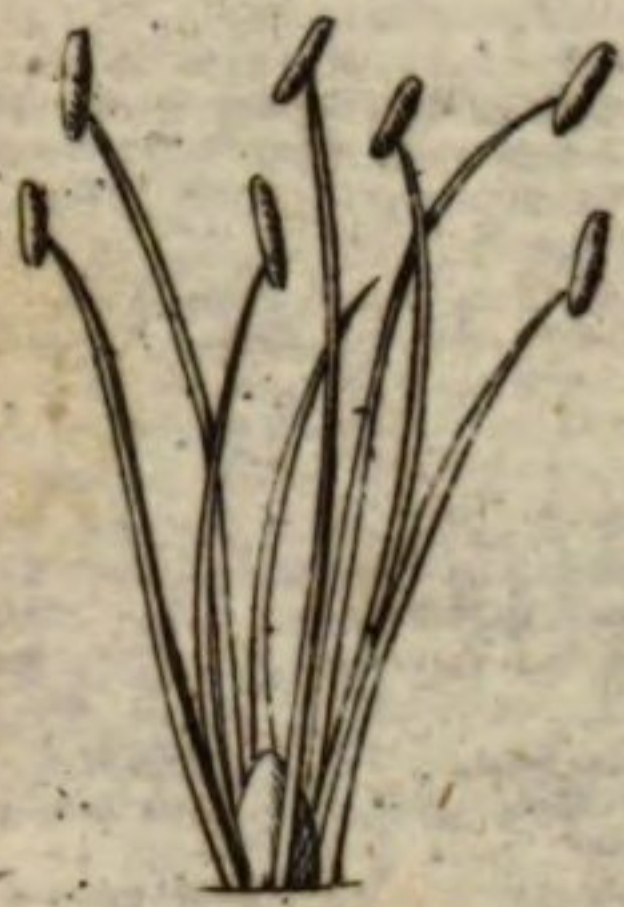
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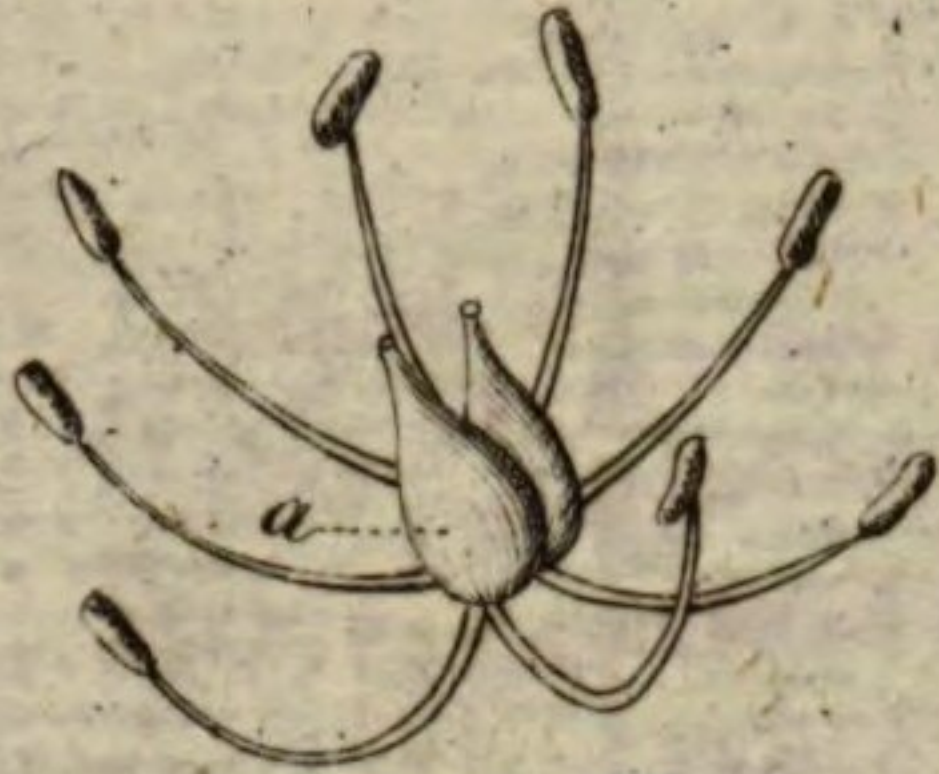
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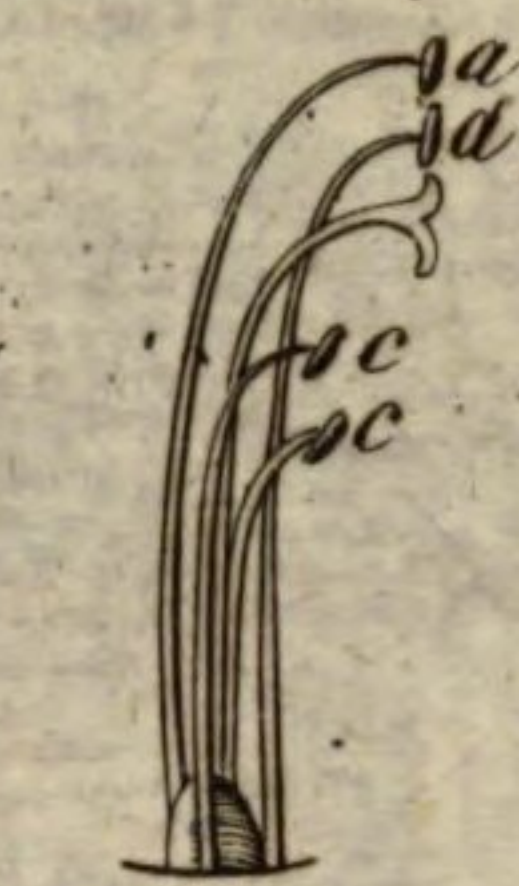
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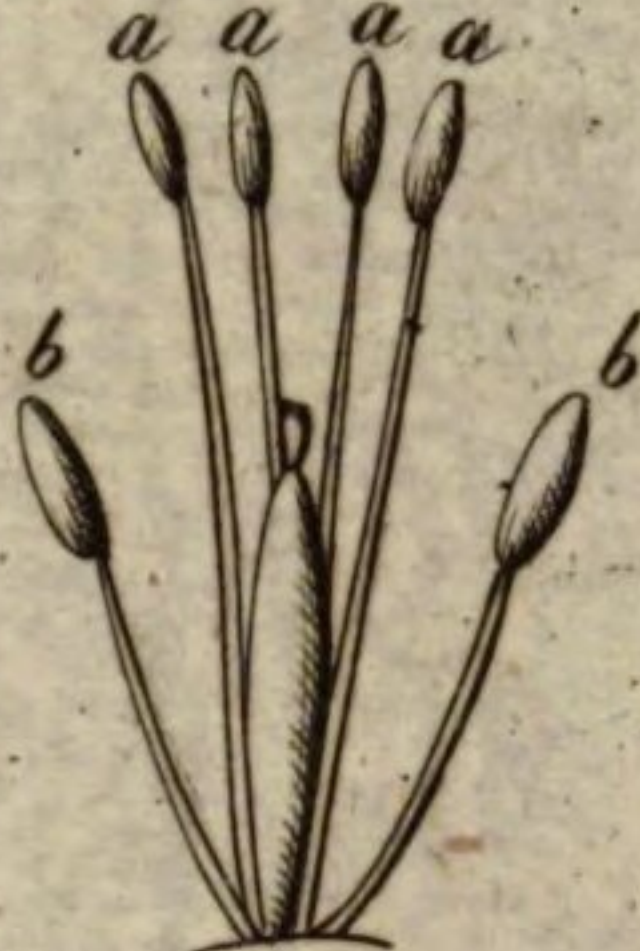
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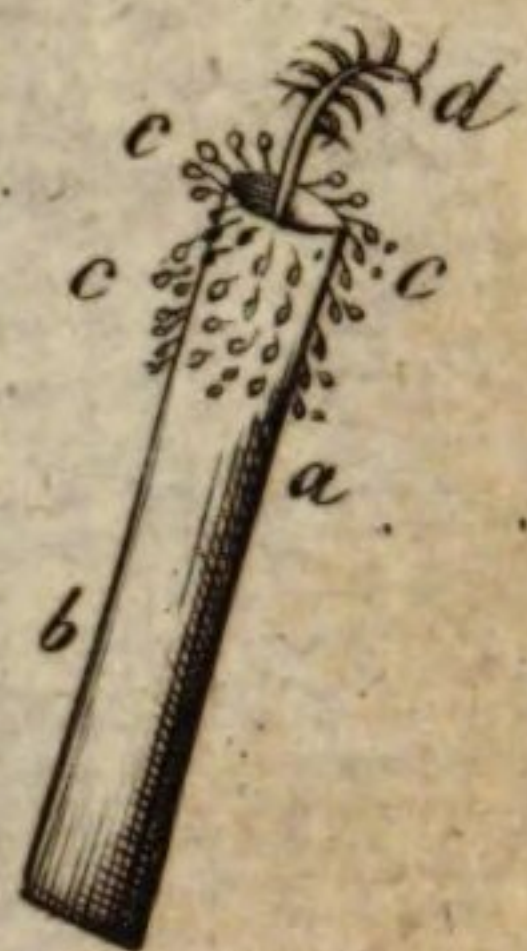
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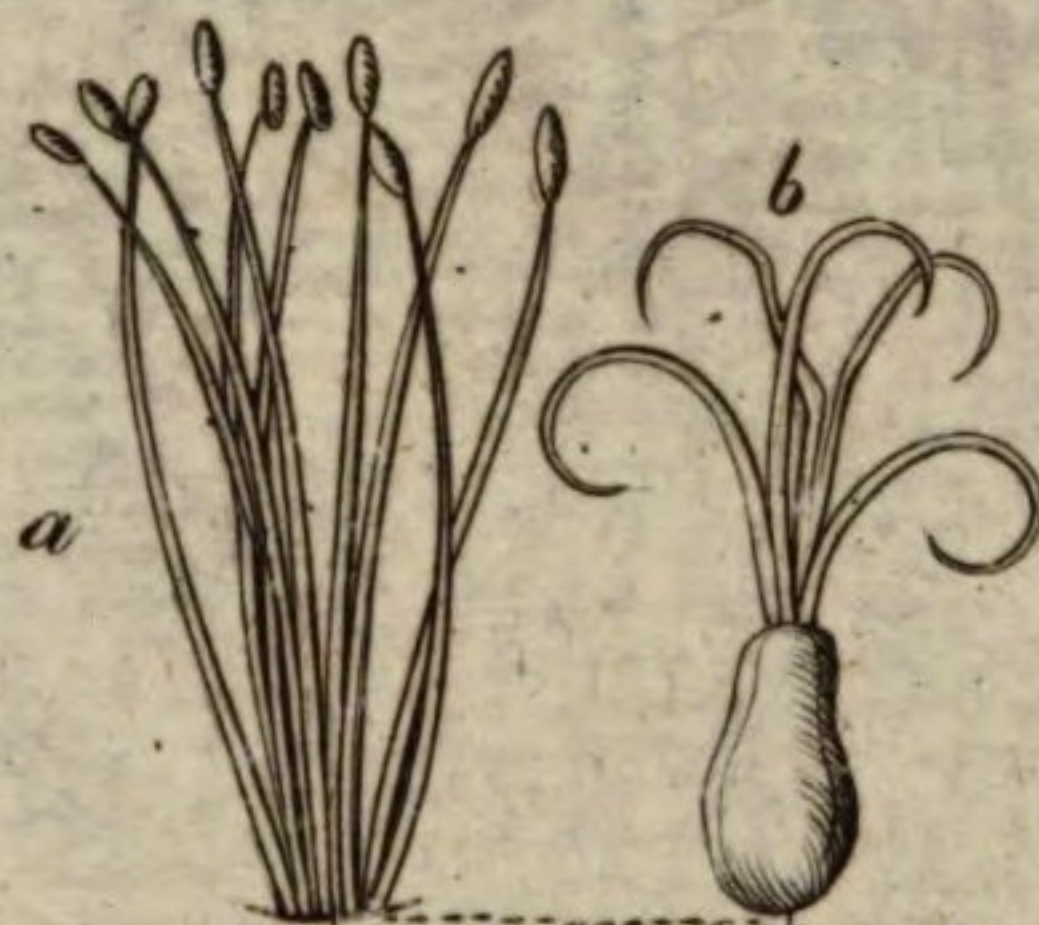
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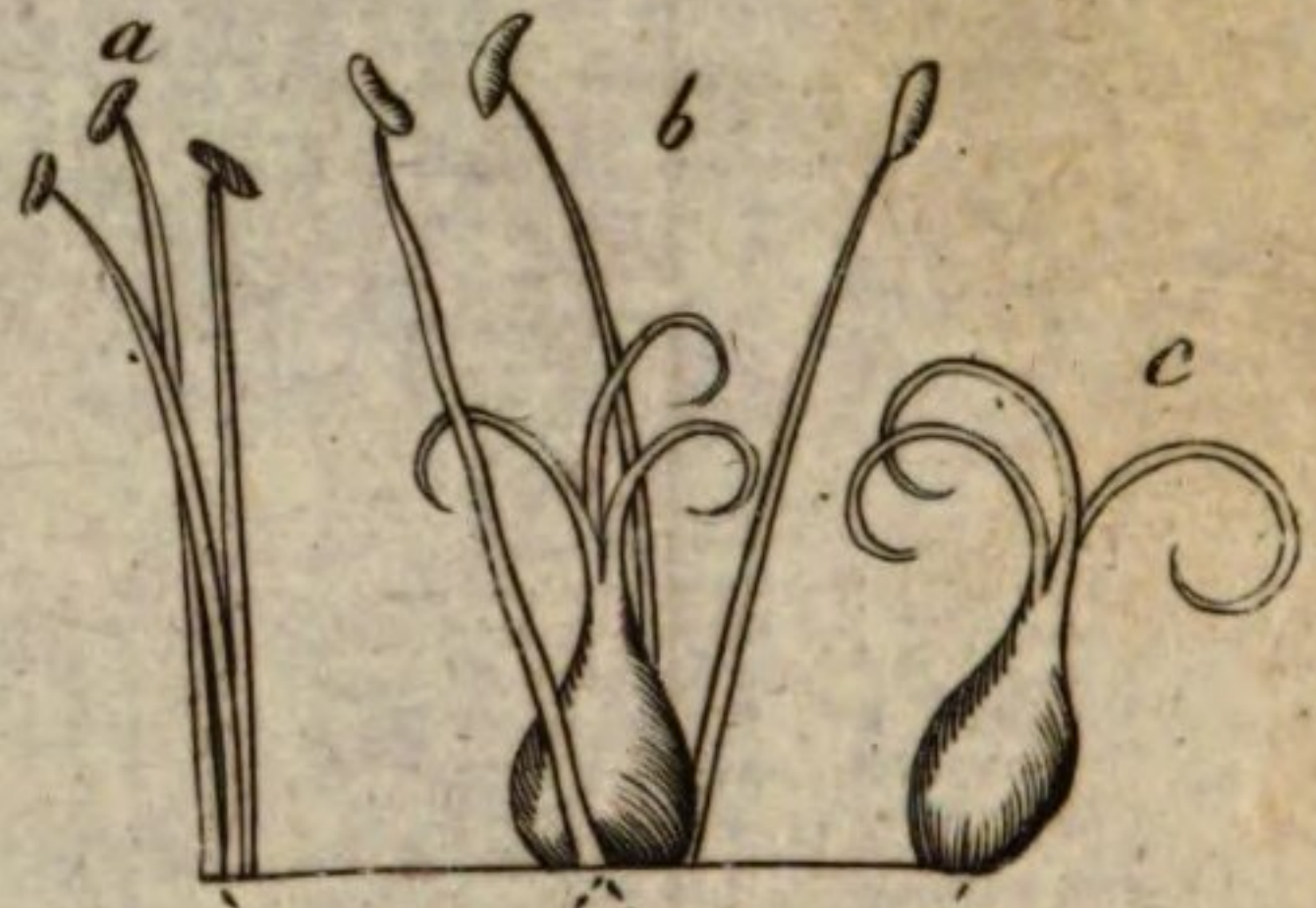
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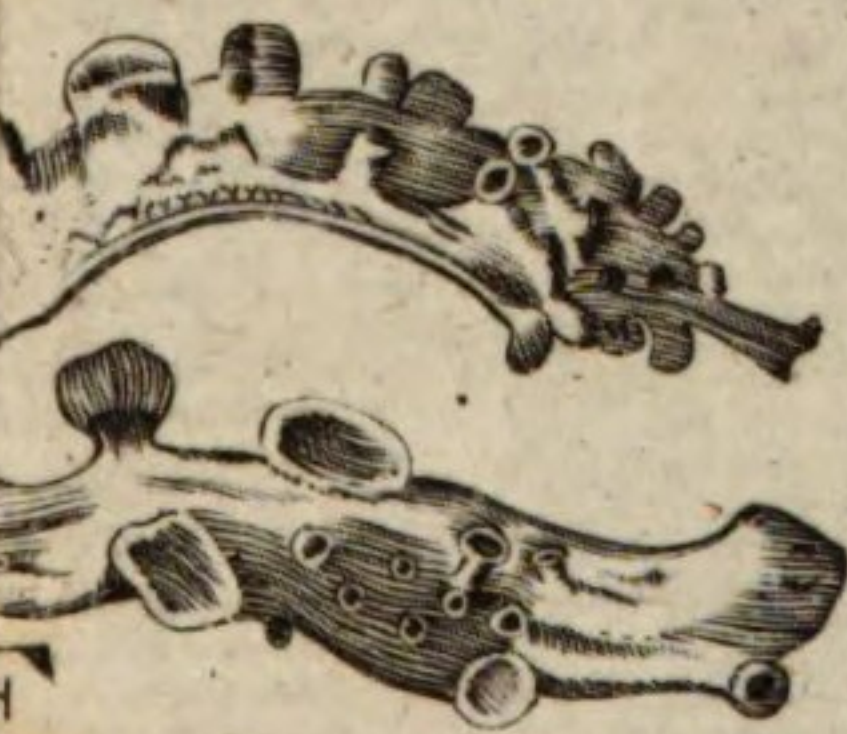
XXII



XXIII



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G

C L A S S III.

THREE CHIVES.

ORDER I. ONE POINTAL.

12. VALERIAN - **B**LOSSOM with five clefts, hunched at the base. *Seed* single.
13. SAFFRON - - *Bloss.* of one petal, but so deeply divided as to appear like six nearly upright petals. *Summits* coloured; rolled in a spiral.
14. FLAG - - - *Bloss.* of one petal; but so deeply divided as to appear like six alternate reflected petals. *Summits* like petals.
- * *Flowers with Valves like Grasses, and husky Empalements.*
15. RUSHGRASS - *Bloss.* none. *Emp.* chaffy; in bundles. *Seeds* roundish.
16. GALANGALE - *Bloss.* none. *Emp.* chaffy; pointing from two opposite lines. *Seed* naked.
17. BULLRUSH - - *Bloss.* none. *Empal.* chaffy; tiled; *Seed* naked.
18. COTTONGRASS *Bloss.* none. *Empal.* chaffy; tiled; *Seed* woolly.
19. MATGRASS - *Bloss.* two valves. *Empal.* none. *Seeds* covered.

Order II. Two Pointals.

* *Flowers scattered; one in each empalement.*

- 20 PANICGRASS. *Empal.* three valves; that upon the back the smallest.
- 21 FOXTAIL. *Empal.* two valves. *Bloss.* one valve with a simple point.
- 22 CATTAIL. *Empal.* two valves; lopped; sharp pointed; fitting.
- 23 CANARY. - *Empal.* two valves. The *Valves* keel-shaped; equal; inclosing the blossom.
- 24 MILLET. - *Empal.* two valves. The *Valves* distended; larger than the blossom.
- 25 BENT. - *Empal.* two valves. The *Valves* sharp; shorter than the blossom.
- 26 COCKSFOOT. *Empal.* two valves. The larger and longer valve compressed and keel-shaped.
- 27 FEATHERGRASS. *Empal.* two valves. *Bloss.* terminated by an awn which is jointed at the base.

† *Small Reed.* † *Branched Reed.* † *Sea Reed.* † *Red Ropegrass.*

** *Flowers scattered; two in each empalement.*

- 28 HAIRGRASS. *Empal.* two valves, containing two *Florets* without the rudiments of a third.
- 29 ROPEGRASS. *Empal.* two valves, containing two *Florets*, with the rudiments of a third betwixt them.

‡ *Soft grass.* ‡ *Tall Oat.* ‡ *Yellow Oat.*

*** *Flowers*

* * * Flowers scattered, several in each empalcment.

- 30 QUAKEGRASS *Empal.* two valves. *Bloss.* heart-shaped ;
with distended valves.
- 31 MEADOWGRASS. *Empal.* two valves. *Bloss.* eggshaped,
with valves somewhat sharp.
- 32 FESCUE. *Empal.* two valves. *Bloss.* oblong ;
with sharp pointed valves.
- 33 BROOMGRASS. *Empal.* two valves. *Bloss.* oblong,
with an awn rising from beneath
the point.
- 34 OAT. - *Empal.* two valves. *Bloss.* oblong,
with a twisted awn upon the back.
- 35 REED. - *Empal.* two valves. *Bloss.* woolly at
the base, and without an awn.

‡ *Hardgrass.* ‡ *Rough Cocksfoot.*

* * * * Flowers on a long toothed seat, without fruit-stalks.

- 36 RYE. - *Empal.* opposite ; of two valves.
containing two florets ; solitary.
- 37 WHEAT. - *Empal.* opposite ; of two valves, con-
taining several florets ; solitary.
- 38 BARLEY. - *Empal.* three together ; lateral ; with
two valves, containing one floret.
- 39 LIMEGRASS. *Empal.* two or three together ; later-
al ; with two valves, containing
several florets.
- 40 DARNEL. - *Empal.* solitary ; lateral ; of one valve,
containing several florets.
- 41 DOGSTAIL. - *Empal.* two valves ; containing several
florets. *Proper receptacle leafy ; Flo-*
rets growing from one side.

Order III. Three Pointals.

- 42 BLINKS. - *Bloss.* of one petal. *Empalement* of
two leaves ; *Capsule* of three *Valves*
with three *Seeds*.

‡ *Common Chickweed.* ‡ *Heath Crowberry.*

THREE CHIVES.

12. VALERIAN. 44. Valeriana.

EMPAL. None, or only a *Rim*, which is superior.

BLOSS. *Tube*, hunched on the under side, and containing honey. *Border* with five clefts; the *Segments* blunt.

CHIVES Three, or fewer than three: awl-shaped, upright; as long as the blossom. *Tips* roundish.

POINT. *Seedbud* beneath. *Shaft* thread-shaped; as long as the chives. *Summit* thick.

S. VESS. A hard substance not opening; deciduous; crowned.

SEEDS Solitary; oblong.

Obs. *There is a wonderful diversity in the parts of the flowers in different species of Valerian, as well in the number, as in the figure of the parts; thus the*

Empal. in some is scarcely discernible; in others there is an evident *Rim* with five clefts.

Bloss. The *Tube* in some oblong, in others very short, and again in another species furnished with a honey cup resembling a spur. The *Border* in some is equal, in others it consists of two *Lips*, and the upper lip cloven.

Chives are for the most part three; in one species two only; in another four, and in some but one. In one species the chives and pointals are found on different plants.

Point. The *Summit* in some species is notched, in others cloven into three; in others globular.

S. Vess. Some species have no seed-vessels; others have a strong thick capsule, and others again a capsule with two cells.

Seeds vary in figure: some are crowned with a feather, whilst others have none.

VALERIAN with chives and pointals on different plants ; Marsh leaves winged, very entire.—*The Blossom of the fertile flowers is Dioica much smaller than the Blossom of the barren flowers. Root leaves egg-shaped. Blossoms reddish white.*

Valeriana palustris minor. *Baub. pin. 164.*

Valeriana sylvestris minor. *Park. 122. Ray's Syn. 200.*

Valeriana minor. *Gerard. 1075.*

Small wild Valerian.

1. There is a variety of this which is smaller.

In moist meadows. P. June.

VALERIAN with three chives in each flower ; all the leaves Wild winged—and opposite. Stem upright, scored. Blossoms reddish white. *Officinalis*

Valeriana sylvestris major. *Baub. pin. 164. Gerard. 1075.*

Park. 122. Ray's Syn. 200.

Great Wild Valerian.

1. The Valeriana sylvestris major montana, *Baub. pin. 164*, is only a variety, and is found in high pastures. The other is very common in hedges, woods and marshes. P. June.

It is the variety, found on heaths and high grounds, which is in so much repute as a medicine. The root hath a strong and not an agreeable smell ; its taste is warm, bitterish, and subacid ; it communicates its properties to wine, water, or spirit ; but it is best in substance, and may be taken from half a dram to two drams for a dose. There is no doubt of its possessing antispasmodic virtues in an eminent degree. It is often prescribed with advantage in hysterical cases ; and instances are not wanting where it appears to have removed some obstinate epilepsies. In habitual costiveness it is an excellent medicine, and frequently loosens the bowels when other stronger purgatives have been tried in vain.

Cows eat the leaves ; Sheep are not fond of them. Cats are delighted with the roots.

VALERIAN with three chives in each flower. Stem forked, Lettuce leaves strap-shaped—Blossom bluish white. *Locusta*

Valerianella arvensis præcox humilis semine compresso. *Rays Syn. 201.*

Valeriana campestris inodora major. *Baub. pin. 165.*

Lactuca agnina. *Gerard. 310. Park. 812.*

Lambs Lettuce. Corn Salad.

1. There is a variety with serrated Leaves. *Ray's Syn. 201.*

Common in cornfields. A. April. May.

The young leaves in Spring and Autumn are eaten as salad, and are very little inferior to young Lettuce.

Cows, Sheep, and Lambs eat it.

THREE CHIVES.

13 SAFFRON. 55 Crocus.

EMPAL. A Sheath, of one Leaf.

BLOSS. Tube simple, long. Border with six divisions; upright. The Segments equal; oblong egg-shaped.

CHIVES. Threads three; awl-shaped, shorter than the blossom. Tips arrow-shaped.

POINT. Seedbud beneath; roundish. Shaft thread-shaped; as long as the chives. Summits three, rolled in a spiral; ferrated.

S. VESS. Capsule roundish; with three lobes, three cells, and three valves.

SEEDS. Several, round.

Cultivated
Sativus

SAFFRON with a sheath of one valve, arising from the root. The tube of the blossom very long—*Leaves strap-shaped, with a white rib along the middle.* Blossom purple.

Crocus. Gerard. 151. Ray's Syn. 374.

Crocus sativus. Baub. pin. 65.

About Cambridge, and at Saffron-Walden in Essex. A. Aug.

1. Leaves narrower; rolled back at the edges.

Crocus Autumnalis sativus. Morison. Hist. 2. p. 335. T. 2. f. 1.

The summits of the pointal of the variety (1) carefully collected and moderately dried are the Saffron of the shops. That collected in England is preferred to all other. It affords a beautiful colour to water, wine or spirit, and gives out the whole of its virtues to them. It hath been held in high repute as a cordial, but modern practice pays no great attention to it, since it hath been found to produce no sensible effect, even when given in doses greatly larger than those generally prescribed.

14 FLAG. 59 Iris.

EMPAL. *Sheaths* of two valves, separating the flowers; permanent.

BLOSS. With six divisions. The *Segments*, which are almost distinct petals; oblong, blunt. The three outer ones reflected; the other three upright and sharper. They are all connected together by the claws.

CHIVES. *Threads* three; awl-shaped, lying upon the reflected *Segments*. *Tips* oblong; straight; depressed.

POINT. *Seedbud* beneath; oblong. *Shaft* simple, very short. *Summit* very large, consisting of three divisions which resemble petals; broad, reflected, alternately pressing down the chives and segments; cloven at the end.

S. VESS. *Capsule*, oblong; angular; with three cells and three valves.

SEEDS. Several; large.

OBS. *There is a honeycup of a different kind in different species. The capsule in some species hath three angles, but in others six.*

FLAG with smooth blossoms; the innermost segments smaller than the summit: the leaves sword-shaped—*The three outer petals have a tooth upon each side next to the chives. Seedbud with three edges; furrowed. Blossoms yellow.* Yellow
Pseud-Acorus

Iris palustris lutea. Gerard. 50. Ray's Syn. 374.

Acorus adulterinus. Baub. pin. 34.

Acorus palustris, five Pseudo-Iris, et Iris lutea palustris. Park. 1219.

Yellow water flower de luce.

1. There is a variety with a pale yellow flower. *Ray's Syn. 375.*
On the banks of rivers; in marshes and wet meadows. P. July.

The juice of the fresh root is very acrid, and hath been found to produce plentiful evacuations from the bowels when other powerful means had failed. *Edin. med. Ess. vol. 5. art. 8.* It may be given for this purpose in doses of 80 drops, every hour or two; but the degree of its acrimony is so uncertain, that it can hardly ever come into general use. The fresh roots have been mixed with the food of swine bitten by a mad dog, and they escaped the disease, when others bitten by the same dog, died raving mad. The root loses most of its acrimony by drying.

Goats eat the leaves when fresh, but Cows, Horses and Swine refuse them. Cows will eat them when dry. The roots are used in the island of Jura to dye black. *Pennant's Tour.*

1772. p. 214.

Stinking
Fætidissima

FLAG with smooth blossoms; the inner segments expanding very much; the leaves sword-shaped, the stem with one angle—*Cylindrical, as long as the leaves, which cover it, and have a very fætid smell. Seedbud like the preceding. Blossom of a disagreeable purplish ash colour: not smelling in the night-time. The claws of the outer petals wrinkled and plaited on the under surface. The inner petals larger than the summit, expanding.*

Gladiolus fætidus. Baub. pin. 30.

Xyris. Gerard. 60. seu spatulo fætida. Park. 256. Ray's Syn. 375.

1. There is a variety with variegated leaves.

Stinking Gladdon, or Gladwyn.

Near Hornsey and about Charlton Wood in Kent; and near Braintree in Essex. P. June. July.

The juice of the root both of this and the preceding species, is sometimes used to excite sneezing; but it is an unsafe practice; violent convulsions having been sometimes the consequence.

15 RUSHGRASS. 65 Schænus.

EMPAL. A *Husk* of two valves; large, upright, tapering to a point, permanent: containing several florets.

BLOSS. *Petals* six; spear-shaped; sharp; approaching; permanent: generally tiled; the outermost petals being the shortest.

CHIVES. *Threads* three; hairlike. *Tips* oblong; upright.

POINT. *Seedbud* egg-shaped with three flattened sides; blunt. *Shaft* bristly; as long as the blossom. *Summit* with three clefts; slender.

S. VESS. None; the petals close upon and contain the seed until it is ripe.

SEED. Single, shining, nearly egg-shaped, but with three sides a little flattened; thickest towards the top.

OBS. *In some species very small bristles arising from the receptacle surround the seed.*

RUSH.

* *Straw Cylindrical.*

RUSHGRASS with cylindrical straws; the leaves beset with prickles at the edges, and along the back.— *Cyperus* Mariscus

Cyperus longus inodorus Germanicus. Baub. pin. 14.

Cyperus longus inodorus Sylvestris. Gerard. 29. Park. 1263. Ray's Syn. 426.

Long-rooted bastard *Cyperus*.

In marshes and bogs. P. July. August.

It serves for thatching instead of straw, and often grows in such quantities in pools, as to form floating islands.

RUSHGRASS with cylindrical, naked straws. Flowers in an eggshaped head; having a fence of two leaves, one of which is long and awlshaped—*General fence composed of two valves, notched at the end, with a sharp point in the middle; the awn of the outer Valve much longer than the whole head, and dark brown at the end.* Blackheaded Nigricans

Juncus lævis minor, panicula glomerata nigricante. Ray's Syn. 430.

Round black-headed Bogrush.

In bogs and marshes. P. June.

RUSHGRASS with cylindrical naked straws. Flowers in a double spike and the larger leaf of the fence just as long as the spike—*Six times smaller than the preceding.* Down Ferrugineus

Juncello accedans graminifolia plantula capitulis Armeriæ prolifera. Ray's Syn. 430.

Brown bastard *Cyperus*.

In turfy bogs upon mountains. P. July.

** *Straw three cornered.*

RUSHGRASS with naked straws a little three cornered, the flowers in the spike pointing two opposite ways. Fence of one leaf.— *Compressed Compressus*

Gramen cyperoides spica simplici compressa disticha. Ray's Syn. 425.

Compressed bastard *Cyperus*.

In turf bogs. P. July.

RUSHGRASS with leafy straws, a little three cornered. White Flowers growing in bundles, leaves bristly. *Albus*

Cyperus minor palustris hirsutus, paniculis albis, paleaceis. Ray's Syn. 427.

Gramen juncum leucanthemum. Gerard. 30.

White flowered Rushgrass.

In marshes. P. July.

Goats eat it.

16 GALANGALE. 66 Cyperus.

EMPAL. A tiled *Spike*; the flowers pointing from two opposite lines, separated by egg-shaped *Scales* which are keel-shaped on the back, and bent inwards at the edges.

BLOSS. None.

CHIVES. *Threads* three; very short. *Tips* oblong, furrowed.

POINT. *Seedbud*, very small. *Shaft* thread-shaped; very long. *Summits* three, hairlike.

S. VESS. None.

SEED. Single, three cornered, pointed; not hairy.

English
Longus

GALANGALE with leafy three cornered straws. The flowers in a trebly compound leafy bundle: fruit-stalks naked; spikes alternate—*Root long, odoriferous.*

Cyperus longus. Gerard. 30. Odoratus. Park. 145. Ray's Syn. 425.

Cyperus odoratus radice longa feu Cyperus Officinalis. Baub. pin. 14.

Sweet Cyperus.

In fens and marshes. P. July.

The root is agreeably aromatic to the smell, and warm and bitter to the taste. The modern practice disregards it, but perhaps it is not inferior to some of the more costly medicines brought from abroad.

17 BULLRUSH. 67 Scirpus.

EMPAL. A tiled *Spike*; the flowers growing equally from every side and separated by egg shaped *Scales* bent inwards at the Edges.

BLOSS. None.

CHIVES *Threads* three; which continue growing longer. *Tips* oblong.

POINT. *Seedbud*, very small. *Shaft* thread-shaped, long. *Summits* three; hairlike.

S. VESS. None.

SEED. Single, three cornered, pointed; furnished with soft hairs, which are shorter than the empalement.

OBS. The hairs in some species grow to the point, in others to the base of the seed.

BULL-

* *Spike single.*

BULLRUSH with a cylindrical, naked straw; spike nearly Club egg-shaped; terminating.— Palustris

Scirpus equiseti capitulo majori. Ray's Syn. 428.

Juncus equiseti capitulis, major. Baub. pin. 12.

Juncus aquaticus capitulis equiseti. Park. 1196.

Juncus minor capitulis equiseti. Gerard. 34.

Clubrush.

On the banks of rivers, ponds and ditches; frequent. P. July.

Swine devour the roots greedily when fresh, but will not touch them when dry.—Goats, Horses and Hogs eat it. Cows and Sheep refuse it.

BULLRUSH with the straw scored, and naked; spikes terminating, with two valves as long as the empalement. The roots separated by scales.— Dwarf Cæspitofus

Scirpus montanus capitulo breviori. Ray's Syn. 429.

Dwarf Clubrush.

In turf bogs and upon dry heaths. P. July.

Goats eat it.

BULLRUSH with cylindrical, naked, bristle-shaped straws. Sharp Spike egg-shaped, consisting of two valves. Seeds naked—*Leaves Acicularis crooked, stiff, cylindrical.*

Scirpus minimus capitulis equiseti. Ray's Syn. 429.

The least upright Club-rush.

In marshes and bogs. P. August.

BULLRUSH with cylindrical, naked, alternate straws. Floating Stem leafy and limber.— Fluitans

Scirpus equiseti capitulo minor. Ray's Syn. 431.

Juncellus, capitulis equiseti minor fluitans. Baub. pin. 12.

Floating Clubrush.

In ponds and ditches. P. July. August.

* * *Straw cylindrical, having several Spikes.*

BULLRUSH with cylindrical, naked, straws; terminated by several eggshaped spikes supported upon fruitstalks.— Lacustris

Scirpus palustris altissimus. Ray's Syn. 428.

Juncus maximus seu Scirpus major. Baub. pin. 12.

Juncus aquaticus maximus. Gerard. 35.

In rivers, pools and fens. P. July. August.

When fodder is exhausted, cattle will live upon it. Cottages are sometimes thatched, and pack-saddles stuffed with it. Bottoms of chairs are very commonly made of this rush: if it is cut at one year old it makes the fine bottoms. Coarse bottoms are made of it at two years old; and those that are still older mixed with the leaves of the Yellow Flag, make the coarsest bottoms.

toms of all. Mats are likewise made either of the Lake Bullrush alone, or mixed with the aforesaid leaves.—Goats and Swine eat it. Cows and Sheep refuse it.

Roundheaded BULLRUSH with cylindrical, naked straws; supporting
Holoschænus nearly globular, congregated spikes, standing on fruit-stalks; with a fence, consisting of two unequal sharp pointed leaves.—
Scirpus maritimus, capitulis rotundioribus glomeratis. Ray's Syn. 429.

Juncus acutus maritimus, capitulis rotundis. Paub. pin. 11.

Juncus acutus maritimus alter. Park. 1196.

On the sea coast. P. July.

Least BULLRUSH with naked, bristle-shaped straws. Spikes one or
Setaceus two, lateral; sitting—*Leaves numerous, slender cylindrical.*
Scirpus foliaceus humilis. Ray's Syn. 430.
Juncellus inutilis, five Chamæschænos. Baub. pin. 12.
pr. 22.

Gramen junceum minimum capitulo squamoso, Baub. pin. 6.

Gramen junceum maritimum exile Plimmothii. Park. 1270.

Least rush, or small Plymouth Rushgrafs.

Wet sandy ground. A. July. August.

*** Straw three cornered, spike naked.

Pointed BULLRUSH with three cornered, taper, naked straws.
Mucronatus The spikes lateral; sitting; close.—*The sharp points much longer than the flowers, and bent sideways.*

Juncus acutus maritimus, caule triangulo. Paub. pin. 11.

Juncus acutus maritimus, caule triquetro, rigido, mucrone pungente. Ray's Syn. 429

On the sea shore and the banks of large rivers. P. July. August.

**** Straw three cornered, panicle leafy.

Marine BULLRUSH with three cornered straws. Panicle close, and
Maritimus leafy; the scales of the little spikes cloven into three segments; the middle segment awl-shaped—*Leaves stiff, and sharp at the edges.*

Gramen Cyperoides panicula sparsa majus. Paub. pin. 6.

Gramen Cyperoides palustris, panicula sparsa majus. Park. 1266. Ray's Syn. 425.

Round rooted bastard Cyperus,

1. There is a variety that hath no aromatic smell. Baub. pin. 14.

On the sea coast and the banks of rivers. P. August.

The roots dried and ground to powder, have been used instead of flour, in times of scarcity.—Cows eat it.

BULLRUSH with three cornered, leafy straws. Flowers in Millet leafy bundles. Fruit-stalks naked; trebly compound. Spikes Sylvaticus crowded. —

Gramen Cyperoides miliaceum. Bauh. pin. 6.

Pseudo-cyperus miliaceus. Park. 1171.

Cyperus gramineus. Ray's Syn. 426.

Cyperus gramineus miliaceus. Gerard. 30.

Millet Cyperus gras.

In wet shady places. P. July.

Cows, Sheep, Horses and Goats eat it. Swine refuse it.

18. COTTONGRASS 68 Eriophorum.

EMPAL. A tiled Spike; the flowers growing equally from every side, and seperated by oblong egg-shaped membranaceous, flexible, tapering Scales, which are flat but turned in at the edges.

BLOSS. None.

CHIVES Threads three; hairlike. Tips upright, oblong.

POINT. Seedbud, very small. Shaft thread shaped; as long as the scales of the empalement. Summits three; longer than the shaft; reflected.

S. VESS. None.

SEED Three cornered, tapering to a point; furnished with soft hairs, which are longer than the spike.

COTTONGRASS with cylindrical sheathed straws, and a skinny spike — *Perennial*; Root-leaves imperfectly three cornered, sharp; with two of the sides scored; Stalk twice as long as the leaves; scored; cylindrical, but flatted on one side; Stem-leaves not sharp pointed; purple at the base; Spike egg-shaped, tiled on every side with brown membranes; the lower spikes barren; the upper ones woolly and fertile. Hares-tail
Vaginatium

Juncus capitulo lanuginoso, seu schænolaguros. Bauh. pin. 12.

Gramen juncoides lanatum alterum danicum. Park. 1271.

Ray's Syn. 436.

Hares-tail Rush.

On bogs. February. March. P.

COTTON

Common
Polystachion

COTTONGRASS with cylindrical straws; flat leaves, and spikes on fruitstalks—*pendant*.

Gramen pratense tomentosum panicula sparsa. Baub. pin. 4.

Gramen tomentarium. Gerard. 29.

Gramen junceum lanatum, vel juncus bombycinus vulgaris. Park. 1271.

Linagrostis. Ray's Syn. 435.

Moorgrafs.

In marshes and bogs. P. June.

This plant is useful in the Isle of Skie to support cattle in the earlier part of the spring, before the other grasses are sufficiently grown. *Pennant's Tour. 1774. p. 308.* Poor people stuff their pillows with the down, and make wicks of candles with it.

19 MATTGRASS 69 Nardus.

EMPAL. None.

BLOSS. Two valves; the *outer Valve* long, betwixt strap and spear-shaped; pointed at the end, and inclosing the *lesser Valve*, which is strap-shaped and sharp pointed.

CHIVES *Threads* three; hair-like; shorter than the blossom. *Tips* oblong.

POINT. *Seedbud* oblong. *Shaft* simple, long, downy. *Summit* simple.

S. VESS. The blossom adheres to the seed, without opening.

SEED. Single, inclosed in the Blossom; long and narrow, tapering to a point at each end, the upper part narrowest.

Small
Stricta

MATGRASS with a bristly, straight spike; and the florets all pointing in one direction—*this grass is stiff and hard to the touch, but being short it eludes the stroke of the scythe.*

Gramen sparteum juncifolium. Baub. pin. 5. Ray's Syn. 393.

Spartum batavum et anglicum. Park. 1199.

Spartum nostras parvum lobelio. Gerard. 43.

Small Matweed.

In dry heaths; fens and marshes. P. April. July.

Goats and Horses eat it. Cows and Sheep are not fond of it. Crows stock it up, for the sake of the larva of insects which they find at the root.

OBS. The last five genera are nearly allied to the GRASSES, and a superficial observer would be tempted to consider them as such, but an attentive perusal of the generic characters will afford sufficient distinctions. (See the Plate of Grasses.)

Order



Vernalgrass



Rushgrass



Galangale



stail



Canary



Millet



Be...grass



Meadowgrass



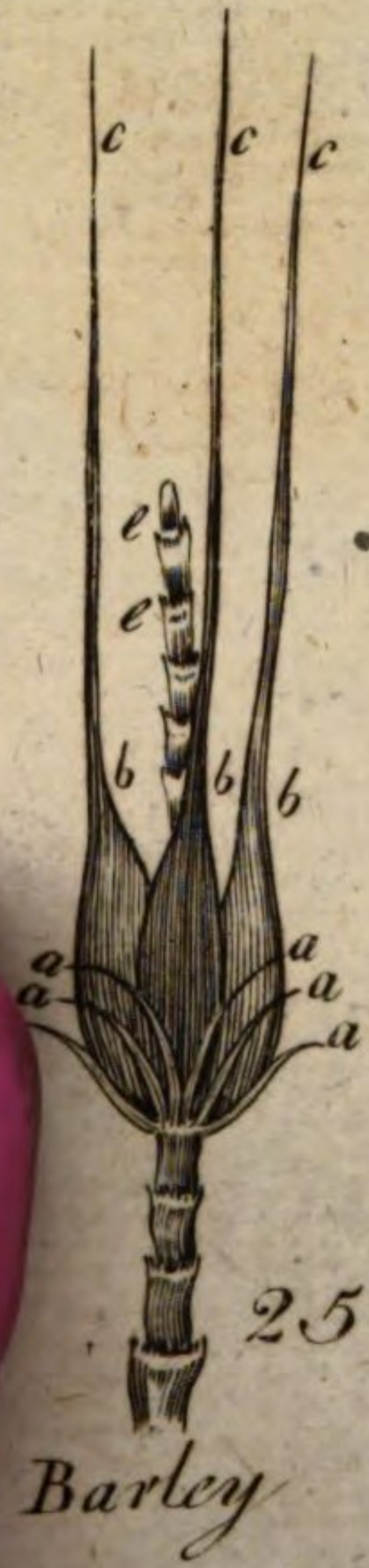
Fescue



Broomgrass



Wheat



Barley



Hardgrass

Order II. Two Pointals.

G R A S S E S.

THIS order comprehends the greater part of those vegetables, commonly called Grasses; and although the flowers are generally disregarded, they will not to an attentive observer, appear less curiously constructed, than those which boast of gayer colours and more conspicuous parts.

NATURAL CHARACTER OF GRASSES.

EMPAL. A husk; generally composed of two valves: the larger valve hollow; the smaller, flat.

BLOSS. Strictly speaking, none: but instead thereof, a Husk of two valves, dry and skinny. *Honeycup* of two leaves; oblong; very small; superior.

CHIVES *Threads* three; hair-like. *Tips* oblong; with two cells.

POINT. *Shafts* two; downy; reflected. *Summits* downy.

S. VESS. None.

SEED. Single; inclosed either by the blossom, or the empalement; oblong; tapering at each end.

STEM simple, straight, hollow; with knots or joints: it is commonly called a *Straw*.

LEAVES entire; narrow; tapering to a point: one placed at each joint of the straw.

Besides the plants which fall under this order, there are others of the grass kind that differ in some of their characters, and are arranged accordingly. Thus the **VERNALGRASS** hath only two chives, and the **SOFT-GRASS** and **HARDGRASS** have their chives and pointals variously disposed upon one plant; (See the figures in the plate of Grasses.)

The great solicitude of nature for the preservation of grasses is evident from this; that the more the leaves are consumed, the more the roots increase. The great author of nature designed, that the delightful verdure of these plants should cover the surface

of the earth, and that they should afford nourishment to an almost infinite number of animals. But what increases our admiration most is, that although the Grasses constitutes the principal food of herbivorous animals, yet, whilst they are left at liberty in the pasture, they leave untouched the straws which support the flowers; that the seeds may ripen and sow themselves. Add to this, that many of the seemingly dry and dead leaves of Grasses, revive, and renew their verdure in the spring. And on lofty mountains where the summer heats are hardly sufficient to ripen the seeds, the most common Grasses are the SHEEPS FESCUE, the MOUNTAIN MEADOWGRASS, and the TURFFY HAIRGRASS, all which are viviparous.

In general, the leaves furnish pasturage for cattle; the smaller seeds are food for birds, and the larger for men. But some are preferred to others; as the FESCUE for Sheep; the MEADOWGRASS for Cows; the CANARY for Canary Birds; the OAT for Horses; the RYEGRASS, BARLEY and WHEAT for Men.

A Variety of insects too derive their nourishment from grasses; as the Great Argus Butterfly, *Papilio mara*, the Wood Argus, *Papilio Aegeria*; the Marble Butterfly, *Papilio Galathea*; the Meadow brown Butterfly, *Papilio Jurtina*; the Plaintain Fritillary, *Papilio Cinxia*; the Lappet Moth, *Phalæna quercifolia*; the Drinker Moth, *Phalæna Potatoria*; the small Pasture Moth, *Phalæna culmella*; the *Chrysomela Graminis*, and several others that will be mentioned under the different species.

No part of botany appeared to me more difficult than the study of Grasses, but the method of accurate dissection and observation once adopted, nothing was more certain or more easy. However, when the great importance of the subject is considered, we cannot labour too much to fix the public attention to it, by rendering it as easy as possible: for which reason the exceptions are carefully noted under each subdivision of the orders, and in the following plate an example is selected from each genus. To gain a clear idea of the structure of the flowers, they must be examined just before the *Tips* discharge their dust; and by comparing them in that state with the figures in the plate, and with the generic description, every difficulty will soon be surmounted. The Botanic Microscope will be found extremely useful in dissecting the minuter parts.

Explanation

EXPLANATION of the PLATE.

- Fig. 1. VERNALGRASS. *a a* husks of the empalement. *b* the awn of the inner valve of the blossom, twisted and jointed. *c* the straight awn of the outer valve of the blossom. *d d* the two tips. *e e* the two shafts.
- Fig. 2. RUSHGRASS. The six petals, the three chives, and tips; the seedbud, the shaft, and the summit cloven into three parts.
- Fig. 3. GALANGALE. *a* the tiled spike pointing from two opposite lines. *b* the scale of the empalement. *ccc* the tips. *d* the shaft. *eee* the summits.
- Fig. 4. BULLRUSH. *b* the tiled spike. *a* the scale of the empalement. *ccc* the chives and tips. *d* the seedbud, a little woolly.
- Fig. 5. COTTONGRASS. *a* the woolly tiled spike. *b* the scale of the empalement including the hairy seedbud, the chives and the pointal.
- Fig. 6. MATGRASS. *A* the spike pointing one way. *ccc* the blossoms. *B* one of the flowers a little magnified. *a* the lower and larger valve that embraces the smaller valve *b*, which is here drawn out of its natural situation. *ccc* the tips.
- Fig. 7. PANICGRASS. *bb* the two equal valves of the empalement. *a* the third smaller and outer valve. *cc* the valves of the blossoms. *ddd* the tips. *ee* the downy summits of the shafts.
- Fig. 8. FOXTAIL. *aa* the valves of the empalement. *b* the single valve of the blossom, with the awn *c* proceeding from its base. *ddd* the tips.
- Fig. 9. CATTAIL. *aa* the husks of the empalement opened and magnified to shew the blossom. *b* the floret in its natural state to shew the two points at the top of it. *ccc* the tips.
- Fig. 10. CANARY. *aa* the keeled husks of the empalement. *bb* the husks of the blossom. *ccc* the tips.
- Fig. 11. MILLET. *aa* the husks of the empalement. *bbb* the tips. *cc* pencil-shaped summits.
- Fig. 12. BENT. *aa* the two pointed valves of the empalement. *bb* the two valves of the blossom. *ccc* the tips.

Fig. 13. COCKSFOOT. *a* the outer and larger valve of the empalement. *b* the shorter valve. *c* the keel-shaped valve of the blossom. *eee* the tips. *d*. the panicle pointing one way.

Fig. 14. FEATHERGRASS. *aa* the valves of the empalement. *b* the outer valve of the blossom, with the awn jointed at the base and twisted. *c* the inner valve of the blossom. *dd* the feathered awn. *ee* the hairy shafts and summits. *fff* the tips.

Fig. 15. HAIRGRASS. *aa* the empalement, *bb* the blossoms, without the rudiment of a third betwixt them.

Fig. 16. ROPEGRASS. *aa* the empalement, *bb* the fertile blossoms with *e* the rudiment, of a third blossom betwixt them.

Fig. 17. QUAKEGRASS. *aa* the valves of the empalement, *bbbbbb* the blossoms, of which the outer valves only are visible, *B* one of the blossoms taken out of the little spike, *cc* the outer heart-shaped valve of the blossom, *dd* the inner valve inversely egg-shaped.

Fig. 18. MEADOWGRASS. *A*, an entire little spike. *aa* the two husks of the empalement. *bbbbbb* the blossoms. *B* one of the florets separated from the little spike. *c* the outer valve, *d* the inner valve of the blossom. *eee* the forked tips. *ff* the woolly summits.

Fig. 19. FESCUE. *aa* the valves of the empalement. *bbbbbbb* the blossoms of the little spike terminating in sharp points. *c* the inner valve of one of the blossoms.

Fig. 20. BROOMGRASS. *aa* the empalement. *bbb* the blossoms, the outward valves only of which are visible, with the awns growing from beneath the point.

Fig. 21. OAT. *aa* the valves of the empalement. *bbb* the florets, the outer valves of which are furnished with a twisted jointed awn, growing from the back. *ddd* the inner valves. *ccccccc* the tips.

Fig. 22. REED. *aa* the valves of the empalement. *bbb* the woolly blossoms.

Fig. 23. RYE. *aa* the valves of the empalement. *bbbb* the blossoms; the inner valve of which is flat, but the outer concave and furnished with an awn. *cc* the spike-stalk with its little teeth.

Fig. 24. WHEAT. *aa* the blunt valves of the empalement, embracing the three blossoms *bbb*, the outer valve only of which is seen, furnished with an awn. *cc* the spike-stalk.

Fig. 25. BARLEY. *aaaaaa* the six valves of the empalement, two of which belong to each of the blossoms *bbb*. *eee* the long awns of the outer valves of the blossoms. *ee* the naked spike-stalk as it appears after the florets are pulled off.

Fig. 26.

Fig. 26. LYMEGRASS. *aaaaaa* the valves of the empalement, two of which belong to each little spike *bbb*. *e* the empalement as it appears after the little spikes are taken away.

Fig. 27. DARNEL. *aaa* the empalements of one valve. *bbb* the little spikes consisting of several florets. *c* one of the florets opened to shew the two valves of the blossom.

Fig. 28. DOGSTAIL. *A* the spike pointing all one way, composed of the florets *B*, in which *a* represents the fence with many clefts; *bb* the valves of the empalement containing several florets, and *cc* the florets.

Fig. 29. SEDGE. *a* the tiled Cat-kin. *c* the scaly empalement of the fertile floret. *d* the honeycup cloven at the top. *b* the seedbud, and *g* the shaft, taken out of the honey-cup: *bbb* the summits. *e* the scaly empalement of the barren floret, with the three chives *fff*.

Fig. 30. SOFTGRASS. *aa* the barren florets on short fruit stalks. *b* the fertile floret furnished with chives and pointals.

Fig. 31. HARDGRASS. *A*, shews a single floret taken from a spike. *a* and *b* the husks of the empalement embracing the spike-stalk. *c d* three blossoms, in which the chives and pointals are variously disposed. *B* the *Sea Hardgrass* with the valves of the empalement undivided.

19 PANICGRASS. 76 Panicum.

EMPAL. *Husk* with three valves, containing one Floret.
The *Valves* nearly egg-shaped. The smallest standing behind the other two.

BLOSS. Two valves. The *Valves* nearly egg-shaped, the smaller valve the flattest.

CHIVES. *Threads* three; hair-like; short. *Tips* oblong.

POINT. *Seedbud* roundish. *Shafts* two; hair-like; *Summits* downy.

S. VESS. The blossom adheres to the Seed without opening.

SEED. Single, inclosed in the blossom; roundish, but a little flattened on one side.

Green
Viride

PANICGRASS with a cylindrical Spike. Partial fence including two Florets; hairy and bundled. Seeds stringy.—

Gramen paniceum spica simplici lævi. Ray's Syn. 393. *Baub. pin.* 8.

Gramen panici effigie spica simplici. Gerard. 17.

Panicgrafs with a single smooth Ear.

1. There is a variety with a rough Spike.

In Pastures but not very common. A. July.

Loose
Crus Galli

PANICGRASS with the spikes alternate and in pairs. The husks have Awns: and are rough with hair. Spike stalk with five angles.—

Gramen paniceum spica divisa. Baub. pin. 8. Ray's Syn. 394.

Panicum vulgare. Gerard 85.

Panicum sylvestre herbariorum. Park. 1154.

In pastures. A. August.

Cocks-foot
Sanguinale

PANICGRASS with fingered Spikes; knotty on the inside the base. Flowers in pairs; without Awns. The Sheath of the leaves dotted—

Gramen dactylon latiore folio. Baub. pin. 8.

Ischæmon sylvestre latiore folio. Park. 1178.

Ischæmon vulgare. Gerard. 27.

Not uncommon. A. August.

Creeping
Dactylon

PANICGRASS with figured expanding Spikes, and soft hairs on the inside the base. Flowers solitary. The plant sends out creeping runners.—

Gramen dactylon folio arundinaceo majus aculeatum. Baub. pin. 7.

Gramen dactyloides radice repente. Gerard. 28.

Gramen canarium ischæmi paniculis. Park. 1179.

In sandy ground and on the sea-shore. P. July.

20. FOXTAIL. 78. Alopecurus.

EMPAL. A *Husk* of two valves containing one floret.
The *Valves* equal, betwixt egg and spear-shaped;
concave, compressed.

BLOSS. One concave *Valve* as long as the empalement,
with a long *Awn* upon the back fixed towards
the base.

CHIVES. *Threads* three; hair-like. *Tips* forked at each
end.

POINT. *Seedbud* roundish. *Shafts* two, like tendrils; re-
flected; longer than the empalement. *Summits*
simple.

S. VESS. The blossom incloses the seed.

SEED. Single; roundish; covered by the blossom.

FOXTAIL with upright straws; cylindrical spikes; and Bulbous
bulbous roots.— Bulbosus

Gramen myosuroides nodosum. *Rays Syn.* 397.

Bulbous Fox-tail Grass.

In pastures. P. June.

FOXTAIL with the spiked straw upright; husks woolly; Meadow
blossoms without awns.—*The spike cylindrical, somewhat divided* Pratenfis
like a panicle. The blossoms are not always without awns.

Gramen alopecuroides majus. *Gerard* 10.

Gramen Phalaroides spica molli, five Germanicum. *Baub.*
pin. 4.

Gramen Phalaroides majus, five Italicum. *Baub. pin.* 4.
Park. 1164.

Meadow Foxtail Grass.

In meadows very common. P. June.

This is the best grass to sow in low meadow grounds, or in
boggy places that have been drained.—Sheep, Horses and Goats
eat it. Cows and Swine are not fond of it.

FOXTAIL with the spiked straw upright. Husks smooth— Field
Spike cylindrical, very long. Straw not quite upright. Agrestis

Alopecurus spica cylindrica longissima, glumis glabris; cul-
mo sub-erecto. *Hudson* 23.

Gramen myosuroides majus; spica longiore, aristis rectis.
Ray's Syn. 397.

Gramen typhoides spica angustiore. *Baub. pin.* 4.

Gramen alopecuroides minus *Gerard* 10.

1. There is a variety with crooked awns mentioned by Ray.
Syn. 397.

Field Foxtail Grass.

In fields and road-sides. P. July. August.

Floating
Geniculatus

FOXTAIL with the spiked straw knee-jointed. Blossoms without awns—*Spike long and slender. In some situations the blossoms have awns.*

Gramen aquaticum geniculatum spicatum. *Baub. pin. 3. Rays Syn. 396.*

Flote Foxtail Grass.

The Leaves lie upon the surface of pools and wet ditches. P. June.---August.

Cows, Horses, Sheep and Goats eat it. Swine refuse it.

Bearded
Monspeliensis

FOXTAIL with a panicle not unlike a spike; the Empalement rough; the blossoms furnished with awns—*resembling the next species but three times as large. There is a little lump or pimple under the empalement. The Blossom is very short. Straw and Leaves inflexible.*

Gramen Alopecuroides anglo-britanicum maximum. *Baub. pin. 4.*

Bearded Dog-tail Grass.

In Marshes. A. June. July.

Hairy
Paniceus

FOXTAIL with a panicle not unlike a spike; the empalement woolly; the blossoms furnished with awns.—

Gramen alopecurum minus; spica longiore. *Baub. pin. 4.*

Bearded Foxtail Grass.

In dry soil. A. July.

21 CATSTAIL. 77 Phleum.

EMPAL. A Husk, of two valves, including a single floret: the husk oblong, strap-shaped, compressed; open at the end, and furnished with two spit points. The Valves equal, straight, concave, compressed; one embracing the other; lopped; with a sharp point at the end of the keel.

BLOSS. Two valves, shorter than the empalement; the outer Valve embracing the inner Valve, which is smaller.

CHIVES Threads three; hair-like; longer than the empalement. Tips oblong, forked at each end.

POINT. Seedbud roundish. Shafts two; hair-like; reflected. Summits downy.

S. VESS. None. The empal. and the blofs. inclosing the feed.

SEED. Single; roundish.

CATSTAIL. The spike cylindrical; long; fringed. Straw Meadow upright.—Pratenfe

Gramen typhoides maximum, spica longissima. *Baub. pin. 4.*

Gramen typhinum majus, feu prinum. *Gerard. 11. Ray's Syn.*

398.

Gramen typhinum medium, feu vulgatissimum. *Park 1170.*

1. There is a variety which is smaller. *Gerard. 11. Park. 1170.*

Timothy Grass.

In pastures; common. P. July.

Cows, Horses and Goats eat it. Swine refuse it.

CATSTAIL. The spike cylindrical; straw ascending; leaves Bulbous oblique; root bulbous—*straw sheathed. Spikes smooth. Tips Nodosum white. Leaves pointing from opposite sides of the straw; smooth; except the edges which are rough.*

Gramen nodosum spica parva. *Baub. pin. 2.*

Very common. P. July. August.

CATSTAIL with the spikes egg-shaped and fringed. Straw Marine branching.—*The spikes seldom rise entirely out of the sheaths of the Arenarium leaves.*

Gramen typhinum maritimum minus. *Ray's Syn. 398.*

Gramen typhinum danicum minus. *Park. 1170.*

Danish Cats-tail Grass, or Sea Canary Grass.

On the sea-shore. A. July.

22 CANARY. 74 Phalaris.

EMPAL. A *Husk* of two valves including a single floret; compressed; blunt. The *Valves* boat-shaped, compressed; keel-bottomed, but more blunt upwards; the edges straight; parallel; approaching.

BLOSS. Two valves smaller than the empalement. The *outer Valve* oblong; rolled in a spiral; tapering to a point. The *inner Valve* smaller than the other.

CHIVES. *Threads* three; hair-like; shorter than the empalement. *Tips* oblong.

POINT. *Seedbud* roundish; *Shafts* two; hair-like. *Summits* woolly.

S. VESS. The blossom closely furrounds the seed, without opening.

SEED. Single; smooth; nearly cylindrical in the middle, but tapering towards each end.

Manured
Canariensis CANARY with a panicle spike nearly eggshaped; and keel-shaped husks.—

Phalaris major femine albo. Baub. pin. 28.

Phalaris. Gerard. 86.

Road sides and uncultivated ground. A. June. September.

It is often cultivated for the sake of the seeds, which are found to be the best food for the Canary, and other small birds.

It nourishes the Canary Bug, *Coccus Phalaridis*.

Cats-tail
Phleoides

CANARY with a cylindrical panicle spike, smooth and viviparous.—*The spike is pale, divisible into lobes, with here and there a viviparous husk. This plant so exactly resembles some of the Cats-tails that it may easily be mistaken for one of that genus; but when you examine the spike and press it with your fingers, it separates, and proves to be a panicle; and the husks are not notched at the end.*

Gramen typhoides asperum primum. Baub. pin. 4.

Branched Cats-tail Grass.

In the fields below Kings-Weston near Bristol. P. July.

Sheep and Goats eat it. Swine refuse it.

Reed

Arundinacea

CANARY with a large oblong panicle, swelling out in the middle.—*Leaves broad, scored. Panicle nearly egg-shaped.*

Gramen arundinaceum acerofa gluma nostras. Park 1273.

Ray's Syn. 400.

Gramen aquaticum paniculatum latifolium. Baub. pin. 6.

Banks of rivers. P. July.

It is used to thatch ricks or cottages, and endures much longer than straw. In Scandinavia they mow it twice a year, and their cattle eat it.

Horses, Cows, Sheep and Goats eat it. Swine refuse it.

There is a cultivated variety of this in our gardens with beautifully striped leaves. The stripes are generally green and white; but sometimes they have a purplish cast. This is commonly called *Painted Lady-grass*, or *Ladies Traces*.

TWO POINTALS.

41

23 MILLET. 79 Milium.

EMPAL. *Husk* with two valves inclosing a single floret. The *Valves* egg-shaped, tapering to a point.

BLOSS. Two valves, smaller than the empalement. *Valves* egg-shaped; one larger than the other.

CHIVES. *Threads* three; hair-like; very short. *Tips* oblong.

POINT. *Seedbud* roundish. *Shafts* two; hair-like. *Summits* pencil-shaped.

S. VESS. The blossom, which is very smooth, incloses the feed.

SEED Single, roundish.

MILLET with the flowers without awns; in scattered Soft panicles.— Effusum

Gramen miliaceum. Gerard. 6. Ray's Syn. 402. vulgare. Park. 1153.

Gramen sylvaticum panicula miliacea sparsa. Baub. pin. 8.

Millet Grass.

In wet woods, common. A. June. July.

Horses, Cows, Sheep and Goats eat it.

24 BENT. 80 Agrostis.

EMPAL. *Husk* of two valves, inclosing one floret, tapering to a point.

BLOSS. Two valves, tapering to a point, *one Valve* larger than the other; hardly so long as the empalement.

CHIVES. *Threads* three; hair-like; longer than the blossom. *Tips* forked.

POINT. *Seedbud* roundish. *Shafts* two; reflected, woolly; *Summits* woolly or hairy.

S. VESS. The blossom adheres to the feed without opening.

SEED Single; cylindrical, but tapering towards each end.

BENT

* *With Awns.*Silky
spicaventi

BENT with a straight, stiff, very long awn, fixed to the outward petal. Panicle expanding.—

Gramen fegetum panicula arundinacea. *Baub. pin. 3.*Gramen agrorum venti spica. *Park 1151.*Gramen arundinaceum. *Gerard. 5.*Gramen miliaceum majus, glamus aristatis, spadiceis et pallidis. *Ray's Syn. 405.*

In fields very common. A. July.

Horses and Goats eat it. Sheep refuse it.

Red
RubraBENT with the part of the panicle that is in blossom very much expanded. The outer petal smooth. The terminating awn twisted and bent back.—*Before it is in flower it is close and contracted like a spike; when in flower the blossoms stand out in horizontal whorls; and after flowering it becomes entirely red.*Panicum ferotinum arvense, spica pyramidata. *Ray's Syn. 394.*

In meadows. A. July.

Horses eat it. Sheep are not fond of it.

Brown
CaninaBENT with very long empalements. The awn upon the back of the petals much curved: the straw prostrate; somewhat branched.—*The panicle is often very long; its branches compact, and of a shining purple: the awn like a bristle, double the length of the flower; white, straight, marked in the middle by a brown joint.*Gramen supinum caninum paniculatum, folio varians. *Baub. pin. 1.*

In wet meadows, frequent: P. July. August.

Cows and Horses eat it.

* * *Without Awns.*Creeping
Stolonifera

BENT without awns; the branches of the panicle expanding; the straws creeping; the empalements equal.—

Gramen montanum miliaceum minus, radice repente. *Ray's Syn. 402.*Gramen caninum supinum minus. *Baub. pin. 1.*

1. There are two varieties; one with a very narrow leaf and another,

2. With extremely small empalements.

In meadows. Not very common. P. August.

Cows, Horses and Sheep eat it.

BENT

BENT with a panicle fine like hair; expanding: empale- Fine
ments awl-shaped; equal; a little rough with hair; coloured. Capillaris
blossoms without awns.—*The very slender panicle and fruit-stalks*
cannot escape observation.

Gramen montanum panicula spadicea delicatiore. *Bauh. pin.* 3.

Gramen miliaceum locustis minimis, panicula fere arundi-
nacea. *Ray's Syn.* 402.

Very common. P. August.

BENT with a compact panicle without awns. Empalements Wood
equal; shorter than the blossom before flowering; but afterwards Sylvatica
twice as long.—

Gramen Miliaceum sylvestre, glumis oblongis. *Ray's Syn.* 404.

In Bishops Wood near Hampstead. P. August.

BENT with a flexible panicle. Empalements without awns, Marsh
equal—*Stem creeping and striking root at the joints.* Alba

Agrostis panicula coarctata mutica, calycibus æqualibus his-
pidiusculis coloratis; culmo repente. *Hudson's Flor. Ang.* 27.

Gramen miliaceum majus, panicula spadicea. *Ray's Syn.* 464.

1. There is a variety with a green panicle.

In ditches and marshes, frequent. P. July.

BENT with a thread-shaped panicle without awns.—*Straw Small*
slender, and very short. Minima

Gramen minimum paniculis elegantissimis. *Bauh. pin.* 2.

Gramen minimum anglo-britanicum. *Ray's Syn. Pl. dub.*

In high dry pastures. P. May.

25 COCKSFOOT. 86 Dactylis.

EMPAL. Husks compressed; keel-shaped, sharp; pointing
one way. One Valve longer than the blossom, the
other shorter.

BLOSS. A Husk; compressed; oblong; sharp. The longest
Valve keel-shaped; lying within the longest valve of
the empalement.

CHIVES. Threads three; hair-like; as long as the blossom.
Tips forked at each end.

POINT. Seedbud turban-shaped. Shafts two; hair-like;
expanding, woolly. Summits simple.

S. VESS. None. The blossom incloses the seed until it is
ripe.

SEEDS Solitary; naked; depressed on one side, convex
on the other.

OPS. *The Rough Cocks-foot hath several florets in each empale-
ment*

COCKS-

Smooth
Cynosuroides

COCKSFOOT with numerous rough scattered spikes, pointing one way.—*Six leaves upon each straw; broad, and longer than the straw; very smooth; rough at the edges; sea green on the inner surface. Spikes six or more; chaffy. Pointals long, woolly.*
Spartum Essexianum, spica germina clausa. Ray's Syn. 393.
In marshes in Essex. A. August. September.

Rough
Glomerata

COCKSFOOT with a congregated panicle, pointing one way. Each empalement contains four florets,—*The bunches of flowers but little expanded. Little spikes compressed; in bundles, sitting; spreading wide when in flower. Tips reddish.*

Gramen spicatum folio aspero. Baub. pin. 3.

Gramen pratense spica multiplici rubra. Park. 1161.

Calamagrostis torosa panicula. Park. 1182.

In meadows and pastures, common. P. June. August.

Horses, Sheep and Goats eat it. Cows refuse it.

26 FEATHERGRASSES. 90 Stipa.

EMPAL. A husk of two valves, taper, flexible; inclosing a single floret.

BLOSS. Two valves. The outer Valve terminated by a very long, straight, twisted awn, jointed at the base. The inner Valve strap-shaped, without any awn; as long as the outer valve.

CHIVES. Threads three; hair like. Tips strap-shaped.

POINT. Seedbud oblong. Shafts two; rough with hair; united at the base. Summit downy.

S. VESS. An adhering husk.

SEED. Single; oblong.

Downy
Pennata

FEATHERGRASS. The awns covered with wool.

Gramen Sparteum pennatum. Baub. pin. 5. Ray's Syn. 393.

Spartum Austriacum pennatum. Gerard. 42.

On mountains. P. July. August.

EMPAL.

27 HAIRGRASS. 81 Aira.

EMPAL. A *Husk* of two valves, containing two florets. The *Valves* betwixt egg and spear-shaped, nearly equal; sharp.

BLOSS. Two valves, resembling those of the empalement.

CHIVES. *Threads* three; hair-like; as long as the blossom. *Tips* oblong; forked at each end.

POINT. *Seedbud* egg-shaped. *Shafts* two; bristly; expanding. *Summits* downy.

S. VESS. None. The blossom incloses and adheres to the seed.

SEED. Nearly egg-shaped.

* Without awns.

HAIRGRASS with a compact panicle. Flowers without Purple awns, on fruit-stalks, awl-shaped; and the edges turned in. Cærulea Leaves flat.—In very fertile soils there are sometimes four florets in each empalement. Roots bulbous. Tips purplish blue. Pointals purple. Straw long and without joints. There is sometimes a shaft betwixt the florets but without any summit; or else it must have been arranged under the genus ROPEGRASS.

Gramen pratense serotinum panicula longa purpurascens. Ray's Syn. 404.

On bogs, turfy, barren and marshy places frequent. P. August.

Horses, Sheep and Goats eat it.

Upon this and the other species is found the *Chermes Graminis*.

HAIRGRASS with an expanded panicle: flowers smooth, Water without awns; longer than the empalement. Leaves flat.—In Aquatica dry situations sometimes there are five florets in each empalement, and the flowers stand far asunder.

Gramen miliaceum aquaticum. Ray's Syn. 402.

Gramen caninum supinum paniculatum dulce. Baub. pin. 2.

Gramen exile tenuifolium canario simile, seu Gramen dulce. Park. 1174.

Banks of rivers. P. June. July.

It hath a sweet taste. Cows are very fond of it. Horses and Sheep eat it.

* * *With awns.*Turfy
Cæspitosa

HAIRGRASS with flat leaves; expanding panicles; petals woolly at the base and furnished with straight short awns—*Outer sides of the valves tinged with purple.*

Gramen segetale. Gerard. 5.

Gramen segetum altissimum panicula sparsa. Baub. pin. 3.

Gramen segetum panicula speciosa. Park. 1158.

Gramen miliaceum segetale majus. Ray's Syn. 403.

Moist meadows and woods. P. June. August.

It is very apt to grow in tufts and occasion irregularities in the surface of meadows.—Cows, Goats and Swine eat it. Horses are not fond of it.

Twisted
Flexuosa

HAIRGRASS with leaves like bristles; straw almost naked; panicle straddling; fruitstalks zigzag—*Each floret hath a twisted awn as long as the blossom, fixed to the outer side of the base of the petal.*

Gramen paniculatum locustis parvis purpuro-argenteis majus et perenne. Ray's Syn. 407.

Gramen avenaceum capillaceum minoribus glumis. Baub. pin. 10.

Rocky and barren ground. P. July. August.

Horses, Cows and Sheep eat it.

Mountain
Montana

HAIRGRASS with leaves like bristles; panicle close; florets hairy at the base, awn rather long and twisted—Hudson makes this only a variety of the foregoing, but it differs in the florets being hairy at the base.

Gramen nemorosum paniculis albis, capillaceo folio. Baub. pin. 7. Ray's Syn. 407.

High barren ground. P. July. August.

Sheep are extremely fond of it.

Grey
Canescens

HAIRGRASS with leaves like bristles; the upper leaf sheathing and inclosing the lower part of the panicle.—*The awns are encompassed with teeth in the middle part, brown and thick below, but white, slender and club-shaped above. After flowering the panicle rises higher out of the sheath; before flowering it resembles a spike. This is paler than most other grasses, and from that circumstance may be distinguished at first sight.*

Gramen foliis junceis, radice jubata. Baub. pin. 5.

Gramen miliaceum maritimum molle. Ray's Syn. 405.

In sand on the sea shore. P. July.

Cows and Goats eat it.

HAIR-

HAIRGRASS with leaves like bristles; angular sheaths; panicle like a spike; florets with an awn at the base—*Nearly allied Præcox to the foregoing, but smaller; being amongst the smallest of all the grasses.*

Gramen parvum præcox panicula (potius spica) laxa canescente. Ray's Syn. 407.

Common in barren sands. A. June. July.

HAIRGRASS with leaves like bristles; panicle straddling; florets distant; furnished with awns.— Silver
Caryophyllæa

Gramen paniculatum, locustis purpureo-argenteis annum. Ray's Syn. 407.

Caryophyllus arvensis glaber minimus. Baub. pin. 105.

In sandy pastures, frequent. A. July.

28 ROPEGRASS. 82 Melica.

EMPAL. A Husk of two valves, containing two florets.

The Valves egg-shaped, concave; nearly equal.

BLOSS. Two valves. Valves egg-shaped; without awns; one concave, the other flat. Betwixt the two florets is a rudiment of a third, and sometimes of a fourth.

CHIVES. Threads three; hairlike as long as the blossom.

Tips oblong, forked at each end.

POINT. Seedbud betwixt egg and turban-shaped. Shafts two; like bristles; expanding. Summits oblong; woolly.

S. VESS. None, the blossom incloses the seed until it ripens.

SEED. Single, eggshaped.

OBS. The rudiment of a third floret standing upon a little fruit-stalk betwixt the other two florets, gives the essential character of this genus. It consists of two rudiments, or florets; lopped; alternate. The husks rolled spirally inwards and pellucid.

Red
Nutans.

ROPEGRASS with a simple nodding panicle, and the blossoms not fringed—*Panicle red. In this species there is often only one perfect flower in each empalement.*

Gramen avenaceum nemorense, glumis rarioribus exfusco xerampelinis. Ray's Syn. 403.

Gramen avenaceum locustis rarioribus. Baub. pin. 10.

Gramen locustis rubris. Park. 1151.

Gramen avenaceum locustis rubris montanum. Baub. pin. 10.

Purple melic grass.

In moist woods, frequent. P. June. July.

In the Isle of Raza they make this grass into ropes for fishing nets, which are remarkable for lasting long without rotting. *Pennant's Tour. 1774. p. 297.*—Cows, Horses and Goats eat it.

29 QUAKEGRASS. 84 Briza.

EMPAL. A *Husk* of two valves, expanding; containing several florets pointing from two opposite lines, collected into a heart-shaped spike. The *Valves* blunt, heart-shaped, concave, equal.

BLOSS. Two valves. The *lower Valve* the size and figure of the empalement. The *superior Valve* small, flat, roundish, closing the hollow of the other.

CHIVES. *Threads* three; hairlike. *Tips* oblong.

POINT. *Seedbud* roundish. *Shafts* two; hairlike; much curved. *Summits* downy.

S.VESS. The blossom unchanged, contains the seed until it is ripe.

SEED. Single; very small; roundish, compressed.

Small
Minor

QUAKEGRASS. The little spikes triangular; and the florets shorter than the empalement—*Seven florets in each empalement.*

Gramen tremulum minus, panicula parva. Baub. pin. 2.

Gramen tremulum minus, panicula ample, locustis parvis triangulis. Ray's Syn. 412.

In pastures. P. July.

QUAKEGRASS. The little spikes egg-shaped and the florets Common longer than the empalement—*The husks and flowers are sometimes Media white. Seven florets in each empalement.*

Gramen tremulum majus. Baub. pin. 2. Ray's Syn. 412.

Gramen tremulum, seu phalaris media Anglica prima an secunda. Park. 1165.

Phalaris Pratense. Gerard. 86.

Middle quaking grass, cow-quakes, ladies hair.

In fields and pastures. P. July.

Cows, Sheep and Goats eat it.

If a seed is carefully dissected in a microscope, with a fine lancet, the young plant will be found with its root and leaves pretty perfectly formed.

30 MEADOWGRASS. 83 Poa.

EMPAL. A *Husk* of two valves without awns; containing several florets pointing from two opposite lines and collected into an oblong egg-shaped spike. The *Valves* egg-shaped, tapering.

BLOSS. Two valves. The *Valves* egg-shaped, tapering, concave, compressed; somewhat longer than the empalement; skinny at the edges.

CHIVES. *Threads* three; hair-like. *Tips* forked at each end.

POINT. *Seedbud* roundish. *Shafts* two; reflected; woolly. *Summits* like the shafts.

S.VESS. The blossoms adheres to the seed without opening.

SEED. Single; oblong, compressed, tapering to a point at each end: covered by the blossom.

MEADOWGRASS with a spreading panicle. Little spikes Reed strap-shaped, containing six florets—*Which are generally purplish.* *Aquatica* Leaves channeled, smooth, broad. *The number of florets in each empalement varies from four to ten.*

Gramen paniculatum aquaticum latifolium. Baub. pin. 3.

Gramen aquaticum majus. Gerard. 6. 411.

Gramen palustre paniculatum altissimum. Baub. pin. 3.

In marshes and on the banks of rivers. P. July. August.

Sheep eat it. Horses and Cows are not fond of it.

It is an extremely useful grass to sow upon the banks of rivers or brooks.

Common
Trivialis MEADOWGRASS with a spreading panicle. Little spikes of three florets; downy at the base. Straw cylindrical, upright—*Leaves smooth along the back. Florets of a yellower colour at the ends than in the other species.*

Gramen pratense paniculatum medium. *Baub. pin. 2. Ray's Syn. 409.*

Gramen pratense minus. *Park. 1156. Gerard. 2.*

In most meadows and pastures. P. June. August.

Narrowleaved
Angustifolia MEADOWGRASS with spreading panicles. Little spikes with two, three, or four florets; downy. Straw cylindrical, upright—*Tips yellow. Panicle oblong; crowded, so as to appear almost tiled.*

Gramen pratense paniculatum majus angustiore folio. *Baub. pin. 2.*

In woods and hedges. A. June. July.

Horses, Cows, Sheep, Goats and Swine eat it.

Great
Pratenfis MEADOWGRASS with a spreading panicle. Little spikes with five florets; smooth. Straw cylindrical, upright.—*Tips blue.*

Gramen pratense paniculatum majus latiore folio, *Poa Theophrasti. Baub. pin. 2. Ray's Syn. 409.*

Gramen Pratenfe. *Gerard. 2.*

Gramen pratense vulgatus. *Park. 1156.*

In fields and pastures. P. June. July.

Horses, Cows, Sheep and Swine eat it. Goats are not fond of it.

Annua.
Annua MEADOWGRASS with the panicle spreading horizontally from the straw. Little spikes blunt. Straw oblique, compressed.—

Gramen pratense minus seu vulgatissimum. *Ray's Syn. 408.*

Gramen pratense minimum album et rubrum. *Park. 1156. Gerard. 3.*

Gramen pratense paniculatum minus. *Baub. pin. 3.*

Suffolk grass.

In most pastures. A. April. September.

Horses, Cows, Sheep, Goats and Swine eat it.

Hard
Rigida MEADOWGRASS with a spear-shaped panicle; a little branched; the florets all pointing one way. The branches alternate—*Straw inflexible, very short. Panicles spear-shaped, inflexible, doubly compounded; branches alternate, with alternate little spikes on inflexible fruitstalks which are shorter than the spike they support. The little Spikes are strap-shaped, sharp, and contain six or eight florets which are a little sharp and skinny at the point. Empalement keel-shaped.*

Gramen panicula multiplici. *Baub. pin. 3. Park. 1157.*

Gramen exile duriusculum in muris et aridis proveniens. *Ray's Syn. 410.*

On walls, roofs, and dry sandy soil, frequent. A. July.

MEA-

MEADOWGRASS with a compact panicle, in which the Creeping florets point all one way. Straw oblique, compressed—*Generally Compressa sex florets in each empalement.*

Gramen pratense medium culmo compresso. *Ray's Syn.* 409.

Gramen murorum radice repente. *Bauh. pin.* 2.

On walls, house-tops and other very dry places. A. June.

Horses, Cows, Sheep and Goats eat it.

MEADOWGRASS with a panicle growing gradually smaller Wood towards the point; each little spike contains about two sharp. Nemoralis pointed rough florets. Straw bowed inwards.—

In woods and shady places. A. June.

MEADOWGRASS with a panicle a little expanding; the Bulbous florets all pointing one way; each little spike containing about Bulbosa four florets—*Straw with bulbs or knobs at the bottom.*

Gramen arvense panicula crispa. *Bauh. pin.* 3.

In pasture ground near Clapham in Surry. P. June.

MEADOWGRASS with a spiked panicle. About four florets Crested in each empalement, which is longer than the fruit-stalk and a Cristata little hairy. Petals with awns.—

Gramen spica cristata subhirsutum. *Bauh. pin.* 2.

Gramen pumilum spica purpureo-argentea molli. *Ray's Syn.* 396.

Cristed Hairgrass. *Hudson's Flor. Angl.* 28.

In high barren pastures. P. July. August.

31 FESCUE. 88 Festuca.

EMPAL. A Husk of two valves; upright; containing several florets collected into a slender spike. The Valves awl-shaped, tapering. The inferior Valve the smallest.

BLOSS. Two valves. The inferior Valve the figure of the empalement but larger; rather cylindrical but tapering, and ending in a sharp point.

CHIVES. Threads three; hair-like; shorter than the blossom. Tips oblong.

POINT. Seedbud turban-shaped. Shafts two, short, reflected. Summits simple.

S.VESS. The blossom shuts close upon the seed,

SEED. Single; slender; oblong; very sharp pointed at each end, with a furrow running lengthways.

* *Panicle with the florets all pointing one way.*

Sheep
Ovina

FESCUE with a compact panicle; florets with awns, all pointing one way. Straw four cornered, almost naked. Leaves like bristles—*Hairy.* The lower little spikes on fruit stalks; four florets in each; with the rudiment of a fifth.

Gramen capillaceum, locustellis pennatis non aristatis. Ray's Syn. 410.

Gramen foliis junceis brevibus majus, radice nigra. Bauh. pin. 5.

1. There is a variety which is viviparous. Ray in his Syn. p. 410, calls it Gramen sparteum montanum, spica foliacea graminea, majus et minus. Tab. 22. fig. 1.

In high and dry situations. P. June. July.

It flourishes best in a dry sandy soil: Cows, Horses, and Goats will eat it, but it is the favourite food of Sheep: they prefer it before all other grasses, and soonest grow fat upon it; for though small, it is succulent. The Tartars who lead a wandering life, tending their flocks and herds, always choose those spots where this grass abounds. Is not the superiority of the Spanish and English wool owing to the abundance of this grass in the hilly pastures where the Sheep are kept?

Hard
Duriuscula

FESCUE with an oblong panicle. Florets all pointing one way. Little spikes oblong and smooth. Leaves like bristles—*Smooth.* Branches of the panicle alternate. The leaves which arise from the root, thread-shaped and channelled; those upon the straw flat; the Husks smooth. Little Spikes on fruit-stalks, five or six florets in each, with short awns. One valve of the husk twice as large as the other.

Gramen pratense. panicula duriore laxa unam partem spectante. Ray's Syn. 413. Tab. 19. fig. 1.

In dry pastures. P. June.

Purple
Rubra

FESCUE with a rough panicle and the florets all pointing one way. The little spikes contain six florets, all of which have awns except that at the end. Straw semi-cylindrical—*The size, the red colour when ripe; and the semi-cylindrical straw distinguish this from the Sheep's Fescue.* The upper surface of the leaves soft and covered with a very fine wool.

In dry pastures. P. June.

Horses and Goats eat it. Sheep refuse it.

FESCUE

FESCUE with spiked nodding panicles. Empalement very Wall
minute; without awns. Blossoms rough and furnished with Myuros
awns---*Leaves awl shaped, scored, sheathing the straw. Five florets*
in each little spike. Panicle branched but not spreading; very slender
and long; bent a little, but not nodding.

Gramen murorum spica longissima. Gerard 31. Ray's Syn. 415.

Gramen spica nutante longissima. Park. 1162.

Capons-tail grass.

On walls and in very dry and barren soils. A. June.

FESCUE with a panicle in which the florets all point one way: Barren
little spikes upright. One valve of the empalement entire, the Bromoides
other tapering to a point.—*The panicle somewhat resembling a spike*
and the husks not being fringed, distinguish this from the Wall Fescue.

Gramen paniculatum bromoides minus, paniculis aristatis
unam partem spectantibus. Ray's Syn. 415.

In sandy fields. A. May. June.

FESCUE with an upright panicle, in which the florets all Tall
point one way. Little spikes with a few awns; the outer ones Elatior
cylindrical.— Meadows

1. Panicle upright, little spikes narrow, without awns: leaves
flat. Hudson. 37.

Gramen paniculatum nemorosum, latiore folio glabrum, pani-
cula nutante non aristata. Ray's Syn. 411.

Gramen paniculatum elatius, spicis longis muticis et squamosis.
Ray's Syn. 411.

2. There is another variety, which Ray calls Gramen arundina-
ceum aquaticum panicula avenacea. Syn. 411.

In pastures; but not common. P. July.

It makes an excellent pasture, but it requires a rich soil.

Horses, Cows, Sheep and Goats eat it.

* * Panicle with the florets pointing various ways.

FESCUE with an upright panicle: little spikes somewhat egg- Small
shaped; without awns. Florets shorter than the empalement. Decumbens
Straw drooping--*Panicle simple. Empalement as long as the little spikes.*

Gramen avenaceum parvum procumbens, paniculis non
aristatis. Ray's Syn. 408.

In barren, but rather moist ground. P. August.

Sheep refuse it.

FESCUE with an upright branched panicle. Little spikes Floating
cylindrical; without awns; with very short fruit-stalks.— Fluitans

Gramen aquaticum cum longissima panicula. Ray's Syn. 412.

Gramen fluviatile. Gerard. 14. Park. 1275.

Gramen aquaticum fluitans, multiplici spica. Baub. pin. 2.

Flote Fescue grass.

In wet ditches and ponds, very common. P. June. July.

The

T H R E E C H I V E S.

The seeds are small, but very sweet and nourishing. They are collected in several parts of Germany and Poland, under the name of *Manna Seeds*; and are used at the tables of the great in soups and gruels, upon account of their nutritious quality, and grateful flavour. When ground to meal, they make bread very little inferior to that in common use. The bran separated in preparing the meal, is given to Horses that have the worms; but they must be kept from water for some hours afterwards. Geese are very fond of the seeds, and well know where to look for them. The plant affords nourishment to the gold spotted Moth, *Phalæna Festuæ*.

Wood
Sylvatica

FESCUE with flowers forming a spike; little spikes alternate, nearly all pointing in two directions; fitting: furnished with awns.—

Festuca graminea nemoratis latifolia mollis. Bauh. pin. 10.

Gramen avenaceum dumetorum spicatum. Ray's Syn. 394.

In woods and hedges. P. July.

32 BROOMGRASS. 89 Bromus.

EMPAL. A Husk of two valves, expanding; containing several florets collected into a spike. The Valves oblong egg-shaped, taper, without awns. The inferior Valve smaller than the other.

BLOSS. Two valves. The inferior Valve large; the size and figure of the empalement; concave, blunt, cloven; sending out a straight Awn from beneath the ends. The superior Valve spear-shaped, small; without an awn.

CHIVES. Threads three; hair-like; shorter than the blossom. Tips oblong.

POINT. Seedbud turban-shaped. Shafts two; short; woolly; reflected. Summits simple.

S.VESS. The blossom shuts close upon and adheres to the seed.

SEED. Single, oblong, convex on one side, furrowed on the other.

Field
Secalinus

BROOMGRASS. The panicle expanding. Little spikes egg-shaped; awns straight. Seeds separate—Leaves rough on one side.

BROOM-

1. BROOMGRASS. Panicle upright and compact—*This variety Compact is occasioned by a dry stiff soil, for when sown in a garden it again Hordeaceous becomes the BROMUS SECALINUS.*

2. Spikes thick, empalements smooth.

Festuca avenacea spicis habitioribus glumis glabris. Ray's Syn. 414

3. Empalements smooth and slender.

In meadows and pastures. 1. 2. in ploughed fields. A. May. June.

The seeds of this species mixed with better corn, may be used to make bread; but when mixed in too large a proportion they render the bread brown and bitter, and those that eat it experience a temporary giddiness.

The panicles are used by the common people in Sweden for dying green.—This grass is eaten by Horses, Cows, Goats and Sheep.

BROOMGRASS. The panicle nearly upright. Little spikes Soft egg-shaped, downy; awns straight; leaves very soft and woolly.—Mollis

Festuca avenacea hirsuta, paniculis minus sparsis. Ray's Syn. 413.

On walls and ditch-banks. B. May. June.

BROOMGRASS. The panicle open. Little spikes oblong; Barren the florets pointing from two opposite lines. Husks awl-shaped, Sterilis with awns—*six or seven florets in each. Leaves smooth.*

Festuca avenacea sterilis elatior seu bromos dioscoridis. Baub. pin. 9. Ray's Syn. 412.

Bromos herba, five avena sterilis. Park. 1147.

Bromos sterilis. Gerard 16.

In woods and hedge rows, frequent. A. June. July.

BROOMGRASS with a nodding panicle. Little spikes ob- Corn long egg-shaped—*Straw upright; often as thick as a goose-quill. Arvensis The sheaths and the upper surface of the leaves downy with white hairs. Ten florets in each little spike. Husks membranaceous at the edges.*

Festuca graminea effusa juba. Baub. pin. 192.

Festuca elatior paniculis minus sparsis, locustis oblongis strigosis, aristis purpureis splendentibus. Ray's Syn. 414.

In cornfields. Plentiful about Gravesend. P. July.

Cows, Horses, Sheep and Goats eat it.

Wall Tectorum **BROOMGRASS** with a nodding panicle. Little spikes strap-shaped—*Straw with five joints. Sheaths scored. Leaves soft on the upper surface; fringed at the edges. Florets in the panicle all pointing one way; and when the seeds are ripe it hangs down to the ground. The five lowermost fruit-stalks hair-like; limber; rough. Florets five in each little spike. Husks awl-shaped, with upright awns, as long as the husks.*

Festuca avenacea sterilis, spicis erectis. Ray's Syn. 413.

Bromus ciliatus. Hudson's Flor. Angl. 40.

Upon walls, roofs, and very dry pastures. A. May.

Cows, Horses, Goats and Sheep eat it.

Tall
Giganteus

BROOMGRASS with a nodding panicle. Little spikes with four florets. Awns shorter than the little spikes—*Straw about five feet high. Leaves the breadth of a man's finger.*

Gramen avenaceum glabrum, panicula a spicis raris strigosis composita, aristis tenuissimis. Ray's Syn. 415.

In woods and moist hedges. P. August.

Cows, Horses, Goats and Sheep eat it.

Cluster
Racemosus

BROOMGRASS. Each empalement standing on a fruit-stalk, and including six smooth blossoms with awns: the whole forming an undivided bunch.—

Festuca avenacea spicis strigosioribus e glumis glabris compactis. Ray's Syn. 414.

Hudson makes this only a variety of the **BROMUS SECALINUS.** *Flor. Angl. 39.*

Common in woods and hedges. A. July. August.

Wood
Ramosus

BROOMGRASS with a branched nodding, rough panicle. About ten florets in each little spike, longer than the awn. Leaves rough—

Festuca graminea nemoralis latifolia mollis. Baub. pin. 9.

Gramen avenaceum dumetorum panicula sparsa. Ray's Syn. 415.

In woods and hedges, frequent. A. July August.

Spiked
Pinnatus

BROOMGRASS. The straw undivided. Little spikes cylindrical; alternate; with awns; supported upon very short fruit-stalks.—*The flatter sides of the little spikes are turned towards the straw. The awns terminating. During the time of flowering, the little spikes stand out horizontally, but before, and afterwards, they lie close to the straw.*

Gramen spica brizæ majus. Baub. pin. 9. Ray's Syn. 392.

In dry fields and commons. P. June.

Horses and Goats eat it. Sheep are not fond of it.

33 OAT. 91 Avena.

EMPAL. A *Husk* of two valves; frequently containing several florets loosely collected. The *Valves* large, spear shaped distended; sharp; without awns.

BLOSS. Two valves. The *inferior Valve* of the size of the husk but harder; somewhat cylindrical, distended, tapering towards each end, sending out from its back an awn, spirally twisted and bent back as if it was jointed.

CHIVES. *Threads* three; hair-like. *Tips* oblong; forked at each end.

POINT. *Seedbud* blunt. *Shafts* two; reflected; hairy. *Summits* simple.

S. VESS. The *Blossom* shuts close upon and adheres to the feed.

SEED. Single; slender; oblong, tapering at each end; marked with a furrow lengthways.

OBS. *The essential character of this genus consists in the jointed, twisted, Awn, growing from the back of the blossom. The number of the florets in each empalement is from one to four or more.*

OAT with flowers forming a panicle; each empalement in- Tall
closing two florets. One floret containing both chives and Elatior
pointals and hardly any awn; the other having only chives and
bearing the awn.—

Gramen nodosum avenacea panicula. Baub. pin. 2. Ray's Syn. 406.

Gramen caninum nodosum. Gerard. 23.

Gramen caninum nodosum five bulbosum vulgare. Park. 1175.

Tall Oatgrafs.

1. There is a variety with long shining flowers.

Gramen avenaceum elatius, juba longa splendente. Ray's Meth. Em. 179.

In fields and pastures.

Cows, Sheep and Goats eat it.

OAT with flowers forming a panicle. Each empalement Naked
containing three blossoms. The receptacle is longer than the Nuda
empalement. The blossoms have awns upon their backs—*The
seeds when ripe fall out of the husks.*

*Avena nuda. Baub. pin. 23. Gerard. 77. Park. 1134.
Ray's Syn. 389.*

Pilcorn.

In ploughed fields, but not common. A. July.

This is nearly as good as the cultivated Oat; it will make
gruel or oat cake, and feed cattle the same as that.

OAT

Bearded
Fatua

OAT with flowers forming a panicle. Each empalement containing three florets which are all hairy at the base. The awns entirely smooth—

Festuca utriculis lanugine flavescentibus. *Baub. pin. 10.*

Ægilops quibusdam aristis recurvis, seu avena pilosa. *Ray's Syn. 389.*

Ægilops bromoides. *Gerard. 77.*

Ægilops bromoides belgarum. *Park. 1148.*

In the fields about Stockwell in Surry. P. August.

Horses, Sheep and Goats eat it.

The awns are used in making hygrometers.

Rough
Pubescens

OAT with flowers almost forming a spike. Each empalement generally containing three florets; hairy at the base; leaves flat, downy—*Spiked panicle of a purplish shining white.*

Gramen avenaceum hirsutum, s. glabrum, panicula purpureo-argentea splendente. *Ray's Syn. 406. Tab. 21. fig. 2.*

In dry soils. Plentiful upon Banstead Downs. P. June.

Yellow
Flavesces

OAT with a loose panicle. Each empalement short and containing two or three florets; all of them furnished with awns—*Panicle yellowish.*

Gramen avenaceum pratense elatius, panicula flavescente, locustis parvis. *Ray's Syn. 407.*

Very common. P. July.

Cattle are not fond of it.

Meadow
Pratensis

OAT with flowers almost forming a spike. Each empalement containing five florets—*Leaves channelled, smooth; panicle compact. Florets smooth; the upper one in each little spike barren.*

Gramen avenaceum montanum spica simplici, aristis recurvis. *Ray's Syn. 405. Tab. 21. fig. 1.*

Upon heaths and chalk hills. P. July.

Horses, Cows, Sheep and Goats eat it.

34 REED. 93 Arundo.

EMPAL. A *Husk* of two upright valves, containing one or more florets. The *Valves* oblong, tapering; without awns. One shorter than the other.

BLOSS. Two valves. The *Valves* as long as the empalement; oblong, tapering; with soft and tender hairs arising from the base and nearly as long as the blossom.

CHIVES. *Threads* three; hair-like. *Tips* forked at each end.

POINT. *Seedbud* oblong. *Shafts* two; hair-like; reflected; woolly. *Summits* simple.

S.VESS. The blossom adheres to the seed without opening.

SEED. Single; oblong, tapering towards each end, furnished with long feathers at the base.

REED with a flexible panicle: each empalement containing five florets— Common
Phragmitis

Arundo vulgaris five phragmites diofocoridis. *Baub. pin.* 17.

Arundo vallatoria. *Gerard.* 36. *Ray's Syn.* 401.

Arundo vulgaris five vallatoria. *Park.* 1208.

Rivers, lakes, ditches; very common. P. July.

Horses, Cows and Goats eat it. Sheep refuse it.

The panicles are used by the rustics in Sweden to dye green. The Reeds are much more durable than straw for thatching. Screens to keep off the cold winds in gardens, are made of them; and they are laid across the frame of wood-work as the foundation for plaister floors.

REED with an upright panicle; each empalement containing a single floret. Leaves smooth on the under side—Small
Epigejos
two feet high. Leaves the breadth of a finger. Panicle dense green, with a tinge of red.

Calamagrostis minor glumis rufis et viridibus. *Ray's Syn.* 401.

In woods P. July.

It very much resembles the rough Cocksfoot in its external appearance.

Branched REED with one floret in each empalement. The empalement Calamagrostis smooth; the blossoms furnished with long soft hairs; the straw branched—

Gramen arundinaceum panicula molli spadicea majus. *Eaub. pin. 7. Ray's Syn. 401.*

Gramen tomentorium arundinaceum. *Gerard. 9.*

Calamagrostis seu gramen tomentosum. *Park. 1182.*

In moist woods and hedges. P. June. July.

Goats eat it.

Sea
Arenaria

REED with one floret in each empalement. Leaves rolled inwards at the edges and furnished with very sharp points—*This plant probably originated from the Small Reed impregnated by the dust of the Sea Lyme-grass.*

Gramen sparteum spicatum foliis mucronatis longioribus vel spica fecalina. *Baub. pin. 5. Ray's Syn. 393.*

Spartum marinum nostras. *Park. 1198.*

Spartum anglicanum. *Gerard 42.*

Sea matweed.

On the sea shore. P. June. July.

It grows only on the very driest sand upon the sea shore; and it prevents the wind carrying the sand from the shore and dispersing it over the adjoining fields: which is not unfrequently the case where this Reed is wanting. Many a fertile acre hath been covered with unprofitable sand and rendered entirely useless; which might have been prevented by sowing the seeds of this plant upon the shore.

The country people cut, and bleach it for making matts. Where it is plentiful, houses are thatched with it.

35 R Y E. 97 Secale.

Common Receptacle lengthened into a spike.

EMPAL. A Husk of two leaves, containing two florets.

The Leaves of the husk opposite; distant; upright; strap-shaped, tapering, smaller than the blossom. Florets fitting.

BLOSS. Two valves. The outer Valve inflexible, distended, tapering, compressed; the keel fringed and terminating in a long awn. The inner Valve flat, spear-shaped.**CHIVES.** Threads three; hair-like; hanging out of the blossom. Tips oblong, forked.**POINT.** Seedbud turban-shaped. Shafts two; reflected; woolly. Summits simple.**S. VESS.** None. The blossom contains the seed until it is ripe.**SEED.** Single; oblong; naked; somewhat cylindrical, but tapering at one end.**Obs.** There is frequently a third floret upon a fruit-stalk betwixt the other two larger ones which have no fruit-stalk.**RYE.** The husks fringed with soft hairs, and the scales of the empalement wedge-shaped.— Woolly Villosum

Gramen secalinum majus sylvaticum. Ray's Syn. 393.

Wood Rye-grass.

In woods and hedge-rows. A. July.

It nourishes the following insects. Brown Moth, *Phalæna granella*—Rye Moth, *Phalæna secalis*—Weevil, *Curculio granarius*—and *Trips Physapus*.

The little spikes appear very beautiful in the microscope.

36 WHEAT. 99 Triticum.

Common *Receptacle* lengthened into a spike.

EMPAL. A *Husk* of two valves, containing several florets.

The *Valves* egg-shaped, blunt, concave.

BLOSS. Two valves, nearly equal; the size of the empalement. The *outer Valve* distended, blunt but tapering. The *inner Valve* flat.

CHIVES. *Threads* three; hair-like. *Tips* oblong, forked at each end.

POINT. *Seedbud* turban-shaped. *Shafts* two; hair-like, reflected. *Summits* downy.

S.VESS. None. The blossom contains the seed until it is ripe.

SEED. Single; oblong egg-shaped; blunt at each end, convex on one side, furrowed on the other.

OBS. The *outer valve* of the blossom in some species is furnished with an awn; in others not. The *middle floret* is frequently without pointals.

Rush
Junceum

WHEAT with lopped empalements, each containing five florets. Leaves rolled inwards—and sharp pointed.

1. There is one variety with a thick spike and a trailing straw, the *Gramen loliaceum maritimum supinum spica crassiore*. Ray's Syn. 391.

And another

2. With a leafy spike, the *Gramen caninum maritimum spica foliacea*. Baub. pin. 2. Sea Wheat-grass.

On the sea shore; very common. P. June. July.

Couch
Repens

WHEAT with awl-shaped tapering empalements; three or four florets in each. Leaves flat—There is generally only three florets in each empalement.

Gramen spica triticea repens vulgare, caninum dictum. Ray's Syn. 390.

Gramen caninum. Gerard. 23.—Vulgatius. Park. 1173.

Gramen caninum arvense, seu gramen dioscoridis. Baub. pin. 1.

Common Wheat-grass, Dogs-grass, Squitch-grass, or Couch-grass. In every field. P. June. August.

The roots dried and ground to meal, have been used to make bread in years of scarcity: and the juice of them drank liberally is recommended by Boerhaave in obstructions of the viscera; particularly in cases of schirrhous liver and jaundice. Cattle are frequently found to have schirrhous livers in the winter, and they soon get cured when turned out to grass in the spring—Dogs eat the leaves, to excite vomiting—Horses, Cows, Sheep and Goats eat them.

WHEAT

WHEAT with empalements containing several florets, each Sea having a sharp point. Spike branched.—*Leaves as long as the Maritimum straw; the sheathing part purple. Eight or ten florets in each empalement; alternate, compressed; thickest at the base; sitting; in the subdivisions sometimes solitary.*

Poa spicata, spiculis alternis sessilibus, sub sex floris. Hudson's Flor. Angl. 35.

Gramen pumilum loliaceosimile. Ray's Syn. 395.

Spiked Meadow-grass.

In the sand on the sea shore, frequent. P. May. June.

37 B A R L E Y. 98 Hordeum.

Common *Receptacle* lengthened into a spike.

EMPAL. A *Husk* of two narrow taper valves, containing one floret, flowers sitting, three in a place.

BLOSS. Two valves. The *lower Valve* longer than the empalement; distended; angular; egg-shaped; tapering; ending in a long awn. The *interior Valve* smaller; flat, spear-shaped.

CHIVES. *Threads* three; hair-like, shorter than the blossom. *Tips* oblong.

POINT. *Seedbud*, betwixt egg and turban-shaped. *Shafts* two; woolly; reflected. *Summits* like the shafts.

S.VESS. The blossom grows round the seed without opening.

SEED. Single; oblong, distended, angular, tapering at each end; furrowed on one side.

OBS. *In some species all the three florets that grow together have both chives and pointals; but in others the middle floret alone is furnished with chives and pointals, the lateral florets having only two chives.*

BARLEY. The lateral florets without awns and without Knotted pointals. The husks bristle-shaped and smooth.—*Root bulbous, Nodosum large. The husks have purple awns, longer than the blossoms.*

Alopecurus spica cylindrica, culmo erecto, radice bulbosa. Hudson's Flor. Angl. 24.

Gramen myosuroides nodosum. Ray's Syn. 397.

Bulbose Fox-tail-grass.

In meadows and pastures. P. June.

Wall
Murinum

BARLEY. The lateral florets have awns, and chives. The intermediate husks are fringed—*There is often the appearance of pointals in the lateral florets as well as in the middle floret; but the lateral ones do not produce perfect seeds.*

Hordeum spurium vulgare. Park. 1147.

Gramen fecalinum et fecale sylvestre. Gerard. 73. Ray's Syn. 391.

Gramen hordeaceum minus et vulgare. Baub. pin. 9.

There are two varieties, viz.

1. Lateral florets very indistinct.

Gramen fecalinum. Gerard. 29. and

2. Marine wall barley.

Gramen fecalinum palustre et maritimum. Ray's Syn. 392.

Wall Barley-grass. Way Bennet.

Upon walls and road-sides. The first variety is found in wet pastures; the second near the sea coast. A. April. August.

Sheep and Horses eat it.

It feeds the Brown Moth *Phalena granella*—and the Barley Fly, *Musca frit.*

38 LYMEGRASS. 96 Elymus.

Common Receptacle lengthened into a spike.

EMPAL. A Husk of four leaves, pointing from two opposite lines, two of the leaves which are awl-shaped, belonging to each little spike.

BLOSS. Two valves; the outer Valve large, tapering; furnished with an awn. The interior Valve flat.

CHIVE. Threads three; hair-like; very short. Tips oblong, forked at the base.

POINT. Seedbud turban-shaped. Shafts two; straddling, hairy, bent inwards. Summits simple

S.VESS. The blossom incloses the seed.

SEED. Single; strap-shaped; convex on one side.

OBS. The empalement may be considered as a husk of two leaves, and two of these empalements growing together.

LYME-

LYMEGRASS with an upright close and long spike. Em- Sea
palement furnished with down; longer than the blossom.—*Leaves* Arenarius
like those of reeds; bluish green or whitish; rolled inwards and sharp-
pointed.

Gramen caninum maritimum spica triticea nostras. Ray's
Syn. 390.

Gramen caninum maritimum spicatum. Baub. pin. 1.

Gramen caninum geniculatum maritimum spicatum. Park. 1277.

Common on the sea coast. P. May. June.

It resists the spreading of loose sand on the sea shore. Is it
not capable of being formed into ropes as one species of the Fea-
thergrafs (*Stipa tenacissima*) is in Spain?—Cows, Horses and
Goats eat it. Sheep refuse it.

LYMEGRASS with a nodding; close and long spike. The Dogs
little spikes straight, without any fence; the lower ones grow- Caninus
ing in pairs—

Gramen caninum aristatum, radice non repente, sylvaticum
Ray's *Syn.* 390.

Triticum caninum. Hudson's *Flor. Angl.* 45.

Bearded Wheat-grafs.

In woods and hedges. P. June. July.

LYMEGRASS with an upright spike. Two florets in each Wood
little spike. Empalement equal.— Europæus

Gramen hordeaceum montanum, seu majus. Baub. pin. 9.
Ray's *Syn.* 392.

In woods. P.

39 DARNEL. 95 Lolium.

Common *Receptacle* lengthened into a spike. The florets pointing from two opposite lines and each pressed close to a bend in the receptacle.

EMPAL. A *Husk* of one valve, awl-shaped, permanent; standing opposite to a bend in the receptacle.

BLOSS. Two valves. The *inferior Valve* narrow; spear-shaped; rolled inwards; tapering; as long as the empalement. The *superior Valve* shorter, more blunt, strap shaped, concave in the upper part.

CHIVES. *Threads* three; hair-like; shorter than the blossom. *Tips* oblong.

POINT. *Seedbud*, turban-shaped. *Shafts* two; hair-like; reflected. *Summits* downy.

S. VESS. None. The blossom incloses the seed until it is ripe.

SEED. Single; oblong; compressed; convex on one side, flat and furrowed on the other.

OBS. *The angles in the spike-stalk lying in the same plane with the florets supply the defect of inner valves to the husks.*

Red
Perenne

DARNEL. The spike without awns. The little spikes contain several florets and are compressed.—*Three or four florets in each little spike. The larger valve of the blossom cloven; sometimes furnished with a short, soft sort of an awn.*

Gramen loliaceum angustiore folio et spica. Baub. pin. 9. Ray's Syn. 395.

Lolium rubrum. Gerard-Phœnix. Park 114.

1. There is a variety in which the spike resembles a panicle; viz. the *gramen loliaceum paniculatum. Ray's Syn. 39.*

In roads and dry pastures, very common. P. June.

Ray Grass, Rye Grass.

It makes excellent hay upon dry chalky or sandy soils. It is cultivated with advantage along with Clover, and springs earlier than the other grasses; thereby supplying food for cattle, at a season when it is most difficult to be obtained. Cows, Horses and Sheep eat it. Goats are not fond of it.

DARNEL.

DARNEL. The spike with awns. The little spikes contain several florets and are compressed.— White Temulentum

Lolium album. Gerard. 78. Park 1145. Ray's Syn. 336.

Gramen loliaceum spica longiore. Baub. pin. 9.

Annual Darnel Grass.

In ploughed fields. A. July. August.

The feeds mixed with bread-corn produce but little effect, unless the bread is eaten hot; but if malted with Barley the ale soon occasions drunkenness.

Sheep are not fond of it.

40 DOGSTAIL. 87 Cynofurus.

EMPAL. Partial Fence large; lateral; generally consisting of three leaves. A Husk of two valves containing several florets. The Valves strap-shaped; tapering; equal.

BLOSS. Two valves. The outer Valve concave and longer than the other. The inner Valve flat, without an awn.

CHIVES. Threads three; hair-like. Tips oblong.

POINT. Seedbud turban-shaped. Shafts two; woolly; reflected. Summits simple.

S. VESS. None. The blossom closely wrapping round the seed.

SEED. Single; oblong, tapering at each end.

OBS. In most species the fence is like a comb.

DOGSTAIL. The floral leaves with winged clefts.—Little Crested spikes composed of three florets. Valves of the husk without awns. Cristatus Petals unequal; the larger one terminated by a short awn.

Gramen cristatum. Gerard 29. Ray's Syn. 398.

Gramen cristatum anglicum. Park 1159.

Gramen pratense cristatum, five *gramen spica cristata* laeve. Baub. pin. 3.

1. There is a variety in which the ear is four cornered, viz. the *Gramen cristatum quadratum*, seu *quatuor cristatum glumarum versibus.* Ray's Syn. 399.

In pastures. P. August.

Sheep eat it.

Rough
Echinatus

DOGSTAIL. The floral leaves winged; chaffy; furnished with short awns.—*The florets are collected into a congregated bunch. The outer florets only have floral leaves, alternately winged; each containing a single floret, and ending in an awn. The Husk hath two valves and contains two florets; is membranaceous, and grows very fine at the point. The Blossom of two valves with an awn upon the outermost point. Shaft cloven.*

Gramen alopecuroides spica aspera. Baub. pin. 4.

Gramen alopecuroides spica aspera brevi. Park. 1168. Ray's Syn. 39.

In sandy soils. A. July.

Blue
Cæruleus

DOGSTAIL with the floral leaves entire.—*Leaves bluish green. Straws oblique. The spike is sometimes white.*

Gramen glumis variis. Baub. pin. 10.

Gramen parvum montanum spica crassiore purpuro-cærulea brevi. Ray's Syn. 399.

In marshes sometimes, but mostly on the tops of mountains in the poorest soil. P. July.

Horses, Sheep and Goats eat it. Swine refuse it.

Order III. Three Pointals.

41 BLINKS. 101 Montia.

EMPAL. Cup of two leaves; egg-shaped, concave, blunt; upright; permanent.

BLOSS. One petal, deeply divided into five parts. The three alternate segments smaller than the rest, and supporting the chives.

CHIVES. *Threads* three; hair-like; as long as the blossom, into which they are inserted. *Tips* small.

POINT. *Seedbud* turban-shaped. *Shafts* three; woolly; expanding. *Summits* simple.

S. VESS. *Capsule* turban-shaped, blunt; of one cell and three valves.

SEEDS Three; roundish.

OBS. *The cup hath frequently three leaves and then the flower produces five chives.*

Water
Montana

BLINKS. As there is only one species known Linnæus gives no description of it.—*Leaves opposite: Flowers on long fruit-stalks. Blossoms white. This is one of the smallest plants we are acquainted with.*

Alfene parva palustris tricoccus, portulacæ aquaticæ similis. Ray's Syn. 252.

Portulaca arvensis. Baub. pin. 288.

About springs and watery lanes. A. April.

CLASS

CLASS IV.

TH E Chives in this Class are four, and all of the same length; whereas in the fourteenth Class, which is likewise composed of flowers with four chives, the chives are unequal in length, two of them being long and two of them short.

The fourth division of the first ORDER including the STARRY plants, admits of the following natural character.

EMPAL. *Cup* small; with four teeth; permanent: superior.

BLOSS. One petal; tubular. *Border* expanding; with four divisions.

CHIVES. *Threads* four. *Tips* simple.

POINT. *Seedbud* beneath: double. *Shaft* thread-shaped; cloven.

SEIDS. Two; somewhat globular.

OBS. *Stem* four cornered. *Leaves* surrounding the stem in form of a star.

The plants corresponding with this natural character are astringent and diuretic.

C L A S S IV.

F O U R C H I V E S.

ORDER I. ONE POINTAL.

* *Flowers of one Petal, and one Seed—superior.* INCORPORATED.

- 42 TEASEL. - Common *Empalement* leafy. *Receptacle* conical, chaffy. *Seeds* like little pillars.
- 43 DEVILSBIT. - *Empalement* common to several florets. *Receptacle* raised, a little chaffy. *Seeds* crowned; rolled in a cover.

** *Flowers of one Petal—bencath; and one Seed-vessel.*

- 44 CHAFFWEED. Blossom wheel-shaped. *Empalement* deeply divided into four parts. *Capsule* of one cell; cut round.
- 45 PLANTAIN. Blossom bent back as if broken. *Empalement* divided into four parts. *Capsule* of two cells; cut round.

† Dwarf Gentian. † Marsh Gentian.

*** *Flowers of one Petal—superior; and one Seed-vessel.*

- 46 BURNET. - Blossom flat. Cup two leaves. *Capsule* four cornered; placed betwixt the cup and the blossom.

47 MAD-

**** *Flowers of one Petal.—superior; and two Berries.* STARRY.

47 MADDER. - Blossom bell-shaped. Fruit, berries.

48 GOOSEGRASS. Blossom flat. Fruit nearly globular.

† Yellow Cross-wort.

49 WOODROOF. Blossom tubular. Fruit nearly globular.

50 REDWORT. Blossom tubular. Fruit crowned. Seeds with three teeth.

***** *Flowers of four Petals—beneath.*

† Hairy Ladys-smock. † Gatteridge Spindle. † Wall Pellitory.

***** *Flowers of four Petals—superior.*

51 CORNEL. Empalement with four teeth.; deciduous. Seed vessel pulpy, including a stone with two cells.

***** *Flowers imperfect—beneath.*

52 LADIESMANTLE. Empalement with eight clefts. Seed one, inclosed in the empalement.

Order II. Two Pointals.

- 53 TOADGRASS. *Bloss.* four petals. *Empal.* four leaves.
Capsule with one cell; two valves;
 and two feeds.
- 54 DODDER. *Bloss.* with four clefts; egg-shaped.
Empal. with four clefts. *Capsule*
 with two cells; cut round.
- 55 PARSLEYPIERT. *Bloss.* none. *Empal.* with four clefts
 and four intermediate teeth. *Seeds*
 one or two.

† Dwarf Gentian. † Marsh Gentian.

Order III. Four Pointals.

- 56 HOLLY. - *Bloss.* one petal, *Empal.* with four
 teeth. *Berry* with four feeds.
- 57 PEARLWORT. *Bloss.* four petals. *Empal.* four leaves.
Capsule with four cells; *Seeds* many.
- 58 PONDWEED. *Bloss.* none. *Empal.* four leaves. *Seeds*
 four; sitting.
- 59 SEAGRASS. *Bloss.* none. *Empal.* none. *Seeds* four;
 on foot-stalks.

† Little Flax.

42 TEASEL. 114 Dipfacus.

EMPAL. *Common Cup* of many leaves containing several florets. The *little Leaves* which form the cup, longer than the florets; flexible; permanent. *Proper Cup*, superior; scarcely perceptible.

BLOSS. *General*, regular. *Individuals* of one petal, tubular. *Border* with four clefts; upright. The outer *Segment* larger and sharper than the rest.

CHIVES. *Threads* four; hair-like; longer than the blossom. *Tips* fixed side-ways to the threads.

POINT. *Seedbud* beneath, *Shaft* thread-shaped; as long as the blossom. *Summit* simple.

S.VESS. None.

SEED. Solitary; resembling square pillars; crowned with the entire margin of the proper cup. *Receptacle* *Common* conical; the florets separated by long chaffy leaves.

TEASEL. The leaves fitting and ferrated—*Awns bent back* Clothiers
like books. Fullonum

Dipfacus fativus. *Baub. pin.* 385. *Gerard.* 1167. *Park.* 983. *Ray's Syn.* 192.

Manured Teasel.

1. There is a variety in which the awns are not bent backwards; it is the dipfacus sylvestris, aut virga pastoris major. *Baub. pin.* 385.

Dipfacus sylvestris. *Gerard.* 1167. *Park.* 984. *Ray's Syn.* 192. *Hudson.* 49.

Wild Teasel.

In hedges and uncultivated places. B. July.

The clothiers employ the heads with crooked awns to raise the knap upon the woollen cloths. For this purpose they are fixed round the circumference of a large broad wheel, which is made to turn round, and the cloth is held against them.

TEASEL. The leaves supported upon leaf-stalks with little appendages.— Smaller
Filofus

Dipfacus sylvestris capitulo minore. vel virga pastoris minor. *Baub. pin.* 385.

Dipfacus minor, seu virga pastoris. *Gerard.* 1168. *Ray's Syn.* 192.

Virga pastoris. *Park.* 984.

Small wild Teasel.

In hedges and amongst old ruins. P. August.

43 DEVILSBIT 115 Scabiosa.

EMPAL. *Common Cup* of many leaves, expanding; containing many florets. The *Leaves* sit upon and furround the receptacle in several rows, the inner ones of which become gradually smaller and smaller.

Proper Cup double; superior.

Outer Cup short; membranaceous; plaited; permanent.

Inner Cup with five divisions; the *Segments* betwixt awl and hair-shaped.

BLOSS. *General* regular; but mostly composed of irregular florets.

Individuals of one petal; tubular; with four or five clefts; equal, or unequal.

CHIVES. *Threads* four; betwixt awl and hair-shaped; feeble. *Tips* oblong; fixed sideways to the threads.

POINT. *Seedbud* beneath; rolled in a proper sheath, like a little cup. *Shaft* thread-shaped, as long as the blossom. *Summit* blunt; obliquely notched at the end.

S.VESS. None.

SEED. Solitary; oblong egg-shaped; rolled in a cover; variously crowned by the proper cup.

Receptacle Common, convex beset with chaffy leaves.

OBS. *The outer blossoms are often the largest and the most unequal. The crown of the seed varies in different species. In some few instances the receptacle is naked.*

Common
Succisa

DEVILSBIT. The blossoms with four nearly equal clefts. Stem simple. Branches near together. Leaves betwixt egg and spear-shaped—*Proper cup* four cornered; hairy; with four fringed teeth. *Crown of the seedbud* adorned with four red bristles fringed at the base. Blossoms blue.

Scabiosa radiea succisa, flore globofo. *Ray's Syn.* 191.

Succisa glabra et hirsuta. *Bauh. pin.* 269.

Morsus diaboli. *Gerard.* 726.

Morsus diaboli vulgaris, flore purpureo. *Park.* 491.

In fields and pastures. P. June. August.

The dried leaves are used to dye wool yellow or green. *It.* Oel. 97. 101. *It. Scan.* 277.

DEVILS-

DEVILSBIT. The blossoms with four clefts; radiate. Stem Field covered with strong hair. Leaves with winged clefts and Arvensis jagged—*Lower leaves egg-shaped. Seed woolly; compressed. Crown of the seed toothed. Receptacle hairy but not chaffy. Blossoms blue.*

Scabiosa pratensis hirsuta. *Baub. pin. 269.*

Scabiosa major vulgaris *Gerard. 719.*

Scabiosa vulgaris pratensis. *Park. 484.*

Common field scabious.

In pastures and cornfields. P. August.

Sheep and Goats eat it. Horses and Cows are not fond of it.

It is slightly astringent, bitter and saponaceous.

DEVILSBIT. The blossoms with five clefts; radiate. Feathered Root leaves egg-shaped, scollopped. Stem leaves bristly; wing- Columbaria ed—*Blossoms pale blue, convex in the center. Seed crowned by five feathers as long as the blossom.*

Scabiosa capitulo globofo major et minor. *Baub. pin. 270.*

Scabiosa minor campestris. *Park. 487.*

Scabiosa minor five columbaria. *Gerard. 719.*

Lesser Field Scabious.

In dry hilly pastures. P. June. July.

Horses, Sheep and Goats eat it.

The Heath Fritillary, *Papilio Maturna* finds its nourishment in all the species of Devilbit.

44 CHAFFWEED. 145 Centunculus.

EMPAL. *Cup* with four divisions; expanding: permanent, the *Segments* sharp, spear-shaped; longer than the blossom.

BLOSS. One petal; wheel-shaped. *Tube* somewhat globular. *Border* flat, with four divisions; the *Segments* nearly egg-shaped.

CHIVES. *Threads* four; nearly as long as the blossom. *Tips* simple.

POINT. *Seedbud* roundish; within the tube of the blossom. *Shaft* thread-shaped; as long as the blossom: permanent. *Summit* simple.

S. VESS. *Capsule* globular; of one cell; cut round.

SEEDS. Several; roundish; very small.

CHAFFWEED. As there is only one species known Linnæus Pimpernel gives no description of it.—*Blossoms minute; white; at the base* Minimus *of the leaves.*

Centunculus. *Ray's Syn. 1.*

Bastard Pimpernel.

In moist sandy ground. A. June.

45 PLANTAIN

45 PLANTAIN. 142 Plantago.

EMPAL. Cup with four divisions; short; upright; permanent.

BLOSS. One petal, permanent: shrivelling. Tube cylindrical but somewhat globular. Border with four divisions; depressed. Segments egg-shaped, sharp.

CHIVES. Threads four; hair-like; upright; exceedingly long. Tips rather long; compressed; fixed sideways to the threads.

POINT. Scedbud egg-shaped. Shaft thread-shaped; longer than the blossom. Summit simple.

S. VESS. Capsule egg-shaped; with two cells; cut round. Partition loose.

SEEDS. Several oblong.

OBS. The empalement in some species is equal; in others unequal. In the grass-leaved Plantain the chives and pointals are in separate flowers.

Great
Major

PLANTAIN with smooth egg-shaped, leaves. Stalk cylindrical; spike tiled with florets---

Plantago latifolia vulgaris. Park. 493.

Plantago latifolia. Gerard. 419. sinuata. Baub. pin. 189.

Way-bread.

Near roads and foot-paths, common. A. June. July.

Sheep, Goats and Swine eat it. Cows and Horses refuse it.

The common people apply the green leaves to cuts.

Hoary
Media

PLANTAIN. The leaves betwixt spear and egg-shaped; downy. Spike and stalk cylindrical---Leaves not toothed. Cups smooth. Threads purplish. Blossoms white.

Plantago major incana. Park. 493. Ray's Syn. 314.

Plantago incana. Gerard. 419.

Plantago latifolia incana. Baub. pin. 189.

Gravelly soil and road sides. P. July August.

Sheep, Goats and Swine eat it. Cows and Horses refuse it.

Ribwort
Lanceolata

PLANTAIN with spear-shaped leaves. Spike somewhat egg-shaped, naked. Stalks angular---The Root appears as if bitten off. Tips white. Five ribs on each leaf. Cup unequal. Floral leaf green, and woolly on the under surface.

Plantago angustifolia major. Paub. pin. 189.

Plantago quinquenervia. Gerard. 422. major. Park. 495.

In pastures, very common. P. June. July.

Horses, Sheep and Goats eat it. Cows refuse it.

PLANTAIN

PLANTAIN with very entire semi-cylindrical leaves; woolly at the base. Stalk cylindrical.---*Tips yellow.* Marine Maritima

Coronopus. Gerard. 425. maritima major. Baub. pin. 190.
Narrow-leaved Plantain.

On the sea coast. P. June. July.

Mr. Pennant in the British Zool. vol. 1. p. 13, says it is cultivated and sown with clover in North Wales, and that it is greedily eaten by Horses and Cows; but Linnæus says that Sheep and Goats eat it but Cows are not fond of it.

PLANTAIN with strap-shaped, toothed leaves; and cylindrical stalks—*Spike pendant before it flowers. Leaves lying upon the ground in form of a star.* Buckthorn Coronopus

Plantago foliis laciniatis, coronopus dicta. Ray's Syn. 315.

Coronopus vulgaris, five cornu cervinum. Park. 502.

Coronopus sylvestris hirsutior. Baub. pin. 190.

Cornu cervinum. Gerard. 427.

1. There is a variety which is smaller, viz.

Plantago gramineo folio hirsuto minor, capitulo rotundo brevi.

Ray's Syn. 316.

Star of the earth.

In gravelly soil. A. July. August.

This was formerly in repute as an antidote against the bite of a mad dog, but it is now partly fallen into disuse. Sheep and Goats eat it.

PLANTAIN with strap-shaped leaves, a little toothed; Sea stalk cylindrical; spike egg-shaped, floral leaves membranaceous; keel-shaped—*It is a smaller and an earlier plant than the preceding species. Flowering stalk hairy.* Læflingii

Plantago marina. Gerard. 423. Rays Syn. 315. vulgaris. Park. 498.

In salt marshes. P. July.

PLANTAIN with awl-shaped leaves; and a stalk supporting only one flower—*The flower supported upon a tall fruit-stalk is barren. The fertile flower is situated at the root and sends out a shaft as long as the stalk of the other flower.* Uniflora

Plantago palustris gramineo folio, monanthos parisiensis. Ray's Syn. 316.

In marshes and wet sandy places. P. July.

The plantain fritillary, Papilio Cinxia, and Wood Tyger Moth, Phalaena Plantaginis, feed upon the different species of

46 BURNET. 146 Sanguisorba.

EMPAL. *Cup* two leaves, little *Leaves* opposite, very short; shedding.

BLOSS. One petal; wheel-shaped; with four divisions. *Segments* blunt egg-shaped; united by the claws.

CHIVES. *Threads* four; broadest in the upper part; as long as the blossom. *Tips* small; roundish.

POINT. *Seedbud* four cornered; situated betwixt the cup and the blossom. *Shaft* thread-shaped; very short. *Summit* blunt.

S. VESS. *Capsule* small; with two cells.

SEEDS. Small.

Common
Officinalis

BURNET with egg-shaped spikes.—*Stem* cylindrical, scored, smooth. *Leaves* winged; smooth; alternate. *Spikes* brown.

Sanguisorba major, flore spadiceo. *Raj's Syn.* 203.

Pimpinella sanguisorba major. *Bauh. pin.* 160.

Pimpinella major vulgaris. *Park.* 582.

Pimpinella sylvestris. *Gerard.* 1045.

1. There is a variety which is smaller.

In moist pastures. The variety in high ground. P. June. July.

The root stands recommended against the bite of a mad dog, but without any great foundation. The whole plant is astringent. The green leaves are sometimes put into wine, to give it a grateful flavour; and the very young shoots are agreeable in salads; but its principal use is as food for cattle early in the spring, and it grows so luxuriantly as to allow of three mowings in one summer. Cows, Horses, Sheep and Goats eat it.

47 MADDER. 127 Rubia.

EMPAL. *Cup* with four teeth; very small; superior.

BLOSS. One petal; bell-shaped; with four divisions; without a tube.

CHIVES. *Threads* four; awl-shaped; shorter than the blossom. *Tips* simple.

POINT. *Seedbud* beneath; double. *Shaft* thread-shaped; cloven at the top. *Summits* nearly globular.

S. VESS. Two smooth *Berries*, united.

SEED. Solitary; roundish; with a hollow dot.

OBS. The blossom hath sometimes five divisions and five chives.

MADDER

MADDER with oval, perennial leaves; smooth on the Wild upper surface—four at each joint of the stem. Blossom on the tops of the branches; yellow. *Peregrina*

Rubia anglica. Hudson's Flor. Angl. 54.

Rubia sylvestris. Park. 274.

Upon St. Vincent's Rock near Bristol, and in hedges in Devonshire. P. July. August.

48 GOOSEGRASS. 125 Galium.

EMPAL. Cup very small; with four teeth; superior.

BLOSS. One petal; wheel-shaped; with four sharp segments, without any tube.

CHIVES. Threads four; awl-shaped; shorter than the blossom. Tips simple.

POINT. Seedbud beneath; double. Shaft thread-shaped; cloven half way down: as long as the Chives. Summits globular.

S. VESS. Two dry globular Berries, united.

SEED. Solitary; large; kidney-shaped.

Obs. In several species the seeds grow two together and one roundish.

* Fruit smooth.

GOOSEGRASS. The leaves growing by fours; inversely White egg shaped; unequal. Stems spreading—Blossoms numerous; Palustre terminating; white.

Gallium palustre album. Baub. pin. 335.

Gallium album. Gerard. 1126.

Molluginis vulgatiores varietas minor. Park. 565. Ray's Syn. 224.

White Ladies Bed-straw.

Cows, Sheep and Horses eat it. Goats and Swine refuse it.

GOOSEGRASS. The leaves generally growing by fours; Mountain strap-shaped; smooth. Stem rough, feeble; seeds smooth—Montanum. Stem leaves growing by fives, reflected. Branch leaves growing by fours. Flowers in broad-topped spikes, cloven into three parts; white; but purple before they unfold themselves. Tips brown.

Mollugo montana minor gallio albo similis. Ray's Syn. 224.

Mountain Ladies Bed-straw.

Upon Hills. P. July.

GOOSE-

Marsh Uliginosum **GOOSEGRASS.** The leaves growing by fixes ; spear-shaped, inversely serrated with inflexible sharp pointed prickles. Blossom larger than the fruit—*white*.

Aparine palustris minor, parisiensis, flore albo. Ray's Syn. 225.

On heathy marshes and wet pastures. P. July. August.

Horses, Cows, Sheep, Goats and Swine eat it.

Smoothseeded Spurium **GOOSEGRASS.** The leaves spear-shaped ; growing by fixes ; a little keel-shaped on the back ; rough, beset with prickles pointing backwards. Stems simple, with crooked joints ; fruit smooth—*Blossoms white*.

Aparine femine læviore. Ray's Syn. 225.

Aparine lævis. Park 567.

Little Pufillum **GOOSEGRASS.** The leaves growing by eights ; rough with strong hairs, strap-shaped, tapering at the end, somewhat tiled. Fruit stalks forked—*Stems numerous, angular. Leaves six or eight in a whorl, narrow, sharp ; rough with expanding hairs on all sides, and so is the stem. Branches few, alternate. Flowers terminating ; forming a very loose panicle upon doubly forked fruit stalks. Blossoms white.*

Rubeola saxatilis. Baub. pin. 334.

Least Ladies Bed straw.

In mountains in Westmoreland. P. August.

Yellow Verum **GOOSEGRASS.** The leaves growing by eights ; strap-shaped ; furrowed. The flowering branches short.—*Blossoms yellow. The Tips after shedding the dust become brown ; not only in this but in other species.*

Gallium luteum. Baub. pin. 335. Gerard. 1126. Park. 564. Ray's Syn. 224.

Yellow Ladies Bed-straw, or Cheese-renning : or Petty-muguet. In dry ground and road-sides. P. July. August.

The flowers will coagulate boiling milk ; and the best Cheshire-cheese is said to be prepared with them. According to an experiment of Borrichius, they yield an acid by distillation. The French prescribe them in Hysteric and Epileptic cases.—Boiled in alum-water they tinge wool yellow.—The roots dye a very fine red, not inferior to madder, and are used for this purpose in the island of Jura. *Pennant's Tour. 1772. p. 214.*

Sheep and Goats eat it. Horses and Swine refuse it. Cows are not fond of it.

GOOSEGRASS.

GOOSEGRASS. The leaves growing by eights; betwixt Madder egg and strap-shaped, expanding; somewhat serrated, and sharp Mollugo pointed. Stem limber, branches expanding—*Blossoms yellowish white, numerous.*

Mollugo vulgator. *Park.* 565. *Ray's Syn.* 223.

Rubia sylvestris lævis. *Baub. pin.* 333.

Rubia sylvestris. *Gerard.* 1118.

Wild Madder. Great Bastard Madder.

Hedges, heaths, frequent. P. June. July.

** *Fruit rough with strong hairs.*

GOOSEGRASS. The leaves growing by fours; spear-shaped; Cross-wort smooth; three fibred. Stem upright—*smooth.* Blossoms *white.* Boreale Seedbud covered with a white woolly substance.

Mollugo montana erecta quadrifolia. *Ray's Syn.* 224.

Rubia pratensis lævis, acuto folio. *Baub. pin.* 333.

Cross-wort Madder.

On the hills in Yorkshire and Westmoreland. P. June. Aug.

The roots afford a red dye for woollen cloths. *Flor. Lapon.* 60.

Horses, Sheep and Goats eat it. Cows are not fond of it. Swine refuse it.

GOOSEGRASS. The leaves growing by eights; keel-shaped upon the back; rough; spear-shaped; set with prickles pointing backwards. Joints woolly.—*Stem four cornered; Leaves eight or ten in a whorl. Branches opposite. Blossoms white, on slender fruit-stalks; not numerous.*

Aparine vulgaris. *Baub. pin.* 234. *Park.* 567.

Aparine. *Gerard.* 1122. *Ray's Syn.* 225.

Catchweed.

In hedges, frequent. A. May, August.

The branches are sometimes used instead of a foi to strain milk. Young geese are very fond of them. The seeds may be used instead of coffee. The plant is eaten by Horses, Cows, Sheep and Goats. Swine refuse it.

GOOSEGRASS. The leaves growing in whorls; strap-shaped; each fruit-stalk supporting two flowers.—*Stems feeble; four cornered, rough when stroked upwards. Seven leaves in each whorl, sharp pointed; particularly rough at the edges. Flowering branches opposite, short. Fruit-stalks naked; with two or three small yellow flowers upon each.*

Aparine minima. *Ray's Syn.* 225. *Tab.* 9. *fig.* 1.

Least Goose grafs.

On walls and in moist barren places. P. July.

The large Bee-moth, *Sphinx stellatarum* and the Spurge Moth, *Spinx Euphorbiae*, feed upon the different species of Goose-grafs.

49 WOODROOF. 121 Asperula.

EMPAL. *Cups* small; with four teeth; superior.

BLOSS. One petal, funnel-shaped. *Tube* long; cylindrical. *Border* with four divisions; the segments oblong, blunt, reflected.

CHIVES. *Threads* four; situated at the top of the tube. *Tips* simple.

POINT. *Seedbud* beneath: double; roundish. *Shaft* thread-shaped; cloven at the top. *Summits* knobbed.

S. VESS. Two dry globular *Berries* adhering together.

SEED. Solitary; roundish; large.

Sweet
Odorata

WOODROOF. The leaves growing by eights; spear-shaped. Flowers in bundles, on fruit-stalks.—*Blossoms* white, *odoriferous*.

Asperula. Gerard. 1224. Ray's Syn. 224. odorata Park. 563.

Asperula, seu *rubeola montana odorata*. Baub. pin. 334.

In woods and shady places. P. May.

The smell of it is said to drive away Ticks, and other insects. *Iter Oeland*. 60. *Westrogoth*. 33.—It gives a grateful flavour to wine.

Cows, Horses, Sheep and Goats eat it.

Squinancy
Cynanchica

WOODROOF. The leaves growing by fours; strap-shaped. The upper leaves opposite. Stem upright. Blossoms with four divisions.—*Stem* rough; *Seedbuds* red. Blossoms a little wrinkled and rough on the outer part; reddish, or white.

Rubeola vulgaris quadrifolia lævis, floribus purpurantibus. Ray's Syn. 225.

Rubia cynanchica. Baub. pin. 333.

Synanchica. Gerard. 1120.

Asperula repens gesneri, seu *saxifraga altera cæsalpini*. Park. 453.

Squinancy Wort.

On chalky hills. P. July.

The roots are used in Sweden to dye red.

50 REDWORT. 120 Sherardia.

EMPAL. *Cup* small; with four teeth; superior; permanent.

BLOSS. One petal; funnel-shaped. *Tube* cylindrical, long. *Border* with four divisions. The *Segments* flat and sharp.

CHIVES. *Threads* four; situated at the top of the tube. *Tips* simple.

POINT. *Seedbud* beneath: double; oblong. *Shaft* thread-shaped; cloven at the top. *Summits* nearly globular.

S. VESS. None. *Fruit* oblong; crowned; separable length-ways into two seeds.

SEEDS. Two; oblong; convex on one side; flat on the other; with three sharp points at one end.

REDWORT with the leaves all growing in whorls, and the Wild flowers terminating.—*Blossoms blue.* Arvensis

Rubeola arvensis repens cærulea. Baub. pin. 334. Ray's Syn. 225.

Rubeola minor pratensis cærulea. Park. 276.

Little Field Madder.

In corn-fields. A. May. June.

Goats are extremely fond of it. Horses eat it, Sheep are indifferent to it.

51 CORNEL. 149 Cornus.

EMPAL. *Fence* generally of four leaves; including several florets. *Leaves* egg-shaped; coloured; deciduous; two, opposite, smaller. *Cup* very small, with four teeth; superior; shedding.

BLOSS. *Petals* four; oblong; sharp; flat; smaller than the fence.

CHIVES. *Threads* four; awl-shaped; upright; longer than the blossom. *Tips* roundish; fixed side-ways to the threads.

POINT. *Seedbud* beneath: roundish. *Shaft* thread-shaped; as long as the blossom. *Summit* blunt.

S. VESS. Pulpy; including a nut or stone; nearly globular, and dimpled.

SEED. A heart-shaped, or oblong nut; with two cells.

Dogberry
Sanguinea

CORNEL. A tree, with straight branches, and flowers in naked tufts.—*Leaves opposite, egg-shaped, very entire. Seed-vessel crowned by the shaft and the cup. Branches of a reddish colour. Blossoms white.*

Cornus fœmina. Baub. pin. 447. Gerard. 1467. Park. 1521. Ray's Syn. 460.

Female Cornel. Dogberry-tree. Gatter tree. Prick-wood.

1. There is a variety with variegated leaves.

In woods and hedges. S. June.

The wood is very hard and smooth, fit for the purposes of the turner. The berries are bitter and styptic: they dye purple. Horses, Sheep and Goats eat it. Swine and Cows refuse it.

Dwarf
Suecica

CORNEL. Herbaceous; with two branches.—*Blossom white, placed betwixt the branches. Fruit red.*

Cornus herbacœa. Hudson's Flor. Angl. 3.

Chamæpericlymenum. Park. 1461. Gerard. 1296. Ray's Syn. 261.

Periclymenum humile. Baub. pin. 302.

Dwarf Honeyfuckle.

On hills in the north. P. June.

The pulpy berries which have a sweet and not unpleasant flavour, are acceptable to children.—

Horses, Sheep, Goats and Swine eat it. Cows refuse it.

52 LADIES-MANTLE. 165 Alchemilla.

EMPAL. *Cup of one leaf; tubular; permanent. Rim flat, with eight divisions: every other Segment smaller.*

BLOSS. None.

CHIVES. *Threads four; awl-shaped; upright; small; standing on the rim of the empalement. Tips roundish.*

POINT. *Seedbud egg-shaped. Shaft thread-shaped; as long as the chives; standing on the base of the seedbud. Summit globular.*

S. VESS. None. The neck of the empalement closes upon the seed.

SEED. Solitary; oval; compressed.

LADIES.

LADIES-MANTLE. The leaves gashed—*plaited like a fan*; Common pale green; hairy; on long leaf-stalks. Blossoms yellowish green. *Vulgaris* Alchemilla. Gerard. 949. Ray's Syn. 158. vulgaris. Baub. pin. 319.

Alchemilla major vulgaris. 538.

1. Empalement white.

In meadows, frequent. P. June. August.

The whole plant is astringent. In the province of Smolandia in Gothland they make a tincture of the leaves, and give it in spasmodic or convulsive diseases. Horses, Sheep, and Goats eat it. Swine refuse it. Cows are not fond of it.

LADIES-MANTLE. The leaves fingered and serrated.—Cinquefoil *Leaves cloven into seven little leaves, only serrated at the ends, and Alpina of a shining white on the under surface.* Blossoms greenish.

Alchemilla alpina pentaphyllos. Ray's Syn. 158.

Pentaphyllum petrosum, heptaphyllum clusii. Gerard. 988.

Tormentilla alpina folio sericeo. Baub. pin. 326.

Tormentilla argentea. Park. 393.

1. There is a variety, viz. the Alchemilla minor, *Hudson's Bastard Flor. Anglic.* 59, which is probably the product of this species *Hybrida* impregnated by the dust of the first species. The leaves are gashed, plaited; sharply serrated and silky.

Least Ladies-mantle.

On mountains in the north. P. July.

Goats and Cows eat it. Horses, Sheep and Swine refuse it.

Order II. Two Pointals.

53 TOADGRASS. 168 Bufonia.

EMPALE. Cup of four awl-shaped leaves, keel-shaped on the back; with membranaceous edges; upright and permanent.

BLOSS. Petals four; oval; upright; equal; notched at the ends; shorter than the empalement.

CHIVES. Threads four; equal; as long as the seedbud. Tips double.

POINT. Seedbud egg-shaped; compressed. Shafts two; as long as the chives. Summits simple.

S. VESS. Capsule oval; compressed; of one cell, and two valves.

SEEDS. Two; oval, compressed; but marked with a little protuberance. Concave on one side.

Obs. It hath generally four chives; sometimes only two, rarely three.

Chickweed
Tenuifolia

TOADGRASS. As there is only one species known Linnæus gives no description of it.—*Stem cylindrical, upright, jointed. Branches alternate. Leaves two at each joint of the stem. Blossoms at the base of the leaves; white.*

Alfinoides. Ray's Syn. 346.

Bastard Chickweed.

On Hounslow Heath. On the sea-coast near Boston in Lincolnshire. P. May.

54 DODDER. 170 Cuscuta.

EMPAL: *Cup* of one leaf; shaped like a drinking glass; divided halfway down into four *Segments*, which are blunt, and fleshy at the base.

BLOSS: One petal; egg-shaped; a little longer than the empalement. The *Rim* with four clefts; the *Segments* blunt.

CHIVES. *Threads* four; awl-shaped; as long as the empalement. *Tips* roundish.

POINT: *Seedbud* roundish. *Shafts* two; upright; short. *Summits* simple.

S. VESS: Roundish; fleshy; with two cells cut round.

SEEDS. Two.

OBS. Sometimes the empalement and blossom are divided into five segments and then there are five chives.

Common
Europæa

DODDER. The flowers fitting.—*This is a very singular plant, almost destitute of leaves; parasitical; creeping; fixing itself to whatever is next to it; it decays at the root and afterwards is nourished by the plant which supports it. Hops, flax, and nettles, are its most common support; but principally the common nettle. Blossoms white.*

Cuscuta major. Baub. pin. 219. Ray's Syn. 281. Cassutha. Gerard. 577. Park. 10.

Hellweed. Devil's Guts.

In cornfields and heaths, very common. A. July.

As soon as the shoots have twined about an adjoining plant, they send out from their inner surface a number of little vesicles or papillæ, which attach themselves to the bark, or rind of the plant. By degrees, the longitudinal vessels of the stalk, which appear to have accompanied the vesicles, shoot forth from their extremities, and make their way into the foster plant, by dividing the vessels and insinuating themselves into the tenderest part of the stalk; and so intimately are they united with it, that it is easier to break than to disengage them from it.

The whole plant is bitter. It affords a pale reddish colour.

Cows, Sheep and Swine eat it. Horses refuse it. Goats are not fond it.

55 PARSLEY.

55 PARSLEYPIERT. 166 Aphanes.

EMPAL: *Cup* of one leaf; tubular; permanent. *Rim* flat; with four divisions, and a little tooth betwixt each division.

BLOSS: None.

CHIVES. *Threads* four; upright; awl-shaped; very small; standing upon the rim of the empalement. *Tips* large; oblong

POINT: *Seedbud* double; egg-shaped. *Shafts* thread-shaped; as long as the Chives; growing from the base of the seedbud. *Summits* somewhat globular.

S. VESS: None; the *Rim* of the empalement closing, confines the seeds.

SEEDS. One or two; egg-shaped; tapering; compressed, as long as the shafts.

OBS. *This genus is nearly allied to the Ladies-mantle. In some specimens only one chive and one pointal are to be found; and when that is the case, there is only one seed.*

PARSLEYPIERT. As there is only one species known Lin- Common næus gives no description of it.—*The Stems trailing and leafy. Arvensis Leaves divided into three lobes; jagged. Blossoms small; greenish white.*

Percepier Anglorum. Gerard. 1594. Ray's Syn. 159.

Polygonum felinoides. Park, 449.

Chærophylo non nihil similis. Bauh. pin. 152.

In cornfields and dry gravelly soils, common. A. May.

Order III. Four Pointals.

56 HOLLY. 172 Ilex.

EMPAL: Cup with four teeth: very small: permanent.

BLOSS: One petal; flat; with four divisions. Segments roundish, concave, expanding, rather large; connected together by the claws.

CHIVES. Threads four; awl-shaped; shorter than the blossom. Tips small.

POINT: Seedbud roundish. Shafts none. Summits four; blunt

S VESS: A roundish Berry, with four cells.

SEEDS. Solitary; hard as bone; oblong; blunt; hunched on one side, angular on the other.

OBS. Great variations take place in the flowers of the Holly; sometimes the chives and pointals are found on distinct plants; sometimes on the same plant, but in different flowers; sometimes again the flowers have five chives, and frequently the disposition of the chives and pointals is such that it claims a place in the second Order of the twenty-third Class.

Tree
Aquifolium

HOLLY with egg-shaped leaves, beset with sharp thorns.—

Blossoms small; whitish. Berries red.

Ilex aculeata baccifera. Baub. pin. 425.

Aquifolium. Gerard. 1338. five aquifolium. Park. 1486. Ray's Syn. 466.

In woods, hedges and heaths. S. April.

All the varieties which gardeners reckon to the amount of forty or fifty, are derived from this one species, and depend upon the variegations of the leaves or thorns, and the colour of the berries.

Sheep are fed in the winter with the croppings. Pennant's Tour. 1772. p. 32. Birds eat the berries. The bark fermented and afterwards washed from the woody fibres makes the common Birdlime. It makes an impenetrable fence, and bears cropping; nor is its verdure or the beauty of its scarlet berries ever observed to suffer from the severest of our winters. The wood is used in fineering, and is sometimes stained black, to imitate Ebony. Handles for knives, and cogs for mill-wheels are made of it.

57 PEARLWORT. 176 Sagina.

BLOSS: *Cup* with four leaves, permanent. *Leaves* egg-shaped; concave; greatly expanded.

BLOSS: *Petals* four; egg-shaped; blunt; expanding; shorter than the empalement.

CHIVES. *Threads* four; hair-like. *Tips* roundish.

POINT: *Seedbud* somewhat globular. *Shafts* four; awl-shaped; bent backward; downy. *Summits* simple.

S. VESS: *Capsule* egg-shaped; straight; with four cells, and four valves.

SEEDS. Numerous; small; fixed to the receptacle.

OBS. *In the Chickweed Pearlwort the capsule hath only one cell, and the cup sometimes consists of five leaves.*

PEARLWORT with trailing branches.—*Blossoms greenish* Chickweed white. *The petals are not always to be found; but the four valves of the capsule after it opens have very much the appearance of petals.* Procumbens

Alfinella muscosa flore repens. Ray's Syn. 345.

Saxifraga anglicana alfine folio. Gerard. 568.

Caryophyllus minimus muscosus nostras. Park. 1340.

1. There is a variety noticed by Plot in his Natural History of Oxfordshire, tab. 9. fig. 7. and

2. Ray mentions another variety with shorter, thicker and more succulent leaves. Ray's Syn. 345.

Chickweed Breakstone. Moss-like Pink.

On walls; roofs and dry sandy places, common. A. June.

PEARLWORT. The stem upright; generally with only one Upright flower. Leaves betwixt strap and spear-shaped—*Sitting; smooth.* Erecta Blossom white. *Leaves of the cup scar-shaped tapering to a point.*

Alfinella foliis caryophylleis. Ray's Syn. 344. tab. 15. fig. 4.

Least Stitchwort.

In gravelly pastures. A. April. May.

58 PONDWEED. 174 Potamogeton.

EMPAL: None.

BLOSS: *Petals* four; nearly circular; blunt; concave; upright: furnished with a little claw; deciduous.CHIVES. *Threads* four; flat; blunt; very short. *Tips* double; short,POINT: *Seedbuds* four; egg-shaped; tapering. *Shafts* none. *Summits* blunt.

S. VESS: None.

SEEDS. Four; roundish, tapering; hunched on one side, compressed on the other, and angular.

Broadleaved
NatansPONDWEED. The leaves oblong egg-shaped, on leaf-stalks; floating—*Leaf-stalks for the most part longer than the leaves.* Blossoms in spikes, yellowish.Potamogeton rotundifolium. *Baub. pin.* 193. *Ray's Syn.* 148.Potamogeton latifolium. *Gerard.* 821.Fontalis major latifolia vulgaris. *Park.* 1254.

In ponds and rivers, common. P. August.

The leaves floating upon the surface of the water afford an agreeable shade to fish.

This plant is the habitation and food of the Pondweed Moth, *Phalæna potamogeton.*Perforated
PerfoliatumPONDWEED. The leaves heart-shaped, embracing the stem—*Mostly alternate, but at the divisions of the flowering branches opposite.* Blossoms yellowish.Potamogeton perfoliatum. *Ray's Syn.* 149.Potamogeton foliis latis splendentibus. *Baub. pin.* 193.Potamogeton 3 dodonæi. *Gerard.* 822.

Perfoliated Pondweed.

In rivers and ponds, frequent. P. June. July.

Goats and Cows eat it. Horses, Sheep and Swine refuse it.

Longleaved
LucensPONDWEED. The leaves flat and spear-shaped; ending at the base in leaf-stalks—*Surface covered with a network of pellucid, veins.* Blossoms in a reddish spike.Potamogeton aquis immersum folio pellucido, lato, oblongo, acuto. *Ray's Syn.* 148.Potamogeton foliis angustis splendentibus. *Baub. pin.* 193.Potamogeton longis acutis foliis. *Gerard.* 822.

Rivers and ponds. P. June.

PONDWEED. The leaves alternate; spear-shaped; ferrated Caltrop and waved at the edge—*Blossoms on fruit-stalks; white, or Crispum reddish.*

Potamogiton, seu fontinalis crispa. *Ray's Syn.* 149.

Potamogiton foliis crispis, seu lactuca ranarum. *Baub. pin.* 193.

Tribulus aquaticus minor quercus floribus. *Gerard.* 824.

Tribulus aquaticus minor prior. *Park.* 1248.

Greater water caltrops.

In ponds and flow rivers, very common. P. May. June.

PONDWEED. The leaves opposite; spear-shaped; a little Serrated waved at the edges—*Blossoms greenish yellow on fruit-stalks. Is Serratum not this a variety only of the former?*

Potamogiton seu fontalis media lucens. *Ray's Syn.* 149.

Potamogiton longo ferrato folio. *Paub. pin.* 193.

Tribulus aquaticus minor, moscatellæ floribus. *Gerard.* 823.

Tribulus aquaticus minor alter. *Park.* 1248.

1. There is a variety with a strap-shaped leaf. *Ray's Syn.* 148.

Lesser water caltrops, or frogs lettuce.

In flow rivers. P. June.

PONDWEED. The leaves strap-shaped; blunt; stem com- Branched pressed—*Blossoms greenish; on short spikes.* Compressum

Potamogiton caule compresso, folio graminis canini. *Ray's Syn.* 149.

Small branched Pondweed with a flat stalk.

In rivers. P. June. July.

PONDWEED. The leaves like bristles; parallel; standing Fennel-leaved near together, and pointing from two opposite lines—*Blossoms whitish; Tips yellow.* Pectinatum

Potamogiton millefolium, seu foliis gramineis ramosum. *Ray's Syn.* 150.

Potamogiton gramineum ramosum. *Baub. pin.* 193.

Millefolium tenuifolium. *Gerard.* 828.

In rivers and ponds. P. June.

PONDWEED. The leaves betwixt strap and spear-shaped; Grass-leaved alternate; sitting; broader than the props.— Gramineum

Potamogiton gramineum latiusculum, foliis et ramificationibus dense stipatis. *Ray's Syn.* 149. Tab. 4. Fig. 3.

In ditches. P.

**Marine
Marinum**

PONDWEED. The leaves strap-shaped; alternate; distinct; the base sheathing the stem—*The props are not distinct in this as in the other species, but the leaves are fixed to them.*

Potamogeton maritimum ramosissimum, grandiusculis capitulis, capillaceo folio nostras. Ray's Syn. 150.

Sea Pondweed.

In salt water ditches. P. August.

**Small
Pusillum**

PONDWEED. The leaves strap-shaped; opposite and alternate; expanding at the base. Stem cylindrical.—

Potamogeton pusillum, gramineo folio, caule tereti. Ray's Syn. 150.

Potamogeton minimum capillaceo folio. Baub. pin. 193.

Small grass-leaved Pondweed.

Pools and ditches. P. June. August.

59 SEAGRASS. 175 Ruppia.

EMPAL: Sheath, hardly any but what is formed by the base of the leaves. Sheathed fruit-stalk, awl-shaped; undivided; straight; but becoming crooked when the fruit ripens. Beset with flowers which point in two opposite directions. Cup none.

BLOSS: None.

CHIVES: Threads none. Tips four; fitting; equal; somewhat roundish; rather double.

POINT: Seedbuds four or five; somewhat eggshaped; approaching. Shafts none. Summits blunt.

S. VESS: None. The seeds are supported upon little foot-stalks, thread-shaped, and as long as the fruit.

SEEDS. Four or five; egg-shaped; oblique; terminated by a flat circular summit.

**Longleaved
Maritima**

SEAGRASS. As there is only one species known Linnæus gives no description of it---Stem undivided. Leaves alternate. Flowers on fruit-stalks.

Gramen maritimum fluitans cornutum. Baub. pin. 3.

Potamogeton maritimum gramineis longioribus foliis, fructu fere umbellato. Ray's Syn. 134.

Fucus folliculaceus, fœniculi folio longiore. Baub. pin. 365.

In salt water ditches. P. August.

CLASS V.

THE first division of the first ORDER of this class, includes the plants with ROUGH LEAVES; which admit of the following natural character.

EMPAL. Cup one leaf; with five clefts, or five divisions :
permanent

BLOSS. One petal; with five clefts.

CHIVES. Threads five, fixed to the tube of the blossom.

POINT. Seedbuds four. Shaft single; thread-shaped.
Summit blunt.

S. VESS. None.

SEEDS. Four; inclosed by the cup.

Obs. Leaves rough and hairy; without leaf-stalks. As there is no seed-vessel, the cup does not fall off but remains after the blossom decays, and contains the seeds.

In the second division of this order, those plants which bear berries and have a blossom composed of one petal, are generally poisonous.

The third division of the SECOND ORDER consists of plants whose flowers are disposed in RUNDLES; or the Umbelliferous plants of many authors. They admit of the following natural character.

Rundle composed of several *Rundlets*.

Fence, general, inclosing the whole rundle, or *partial*, inclosing only the rundlets.

EMPAL.

THREE CHIVES.

EMPAL. *Cup* hardly discernible.

BLOSS. Five petals; standing on the seedbud; shedding. *Petals* generally heart-shaped and bent inwards.

CHIVES. *Threads* five; simple, hair-like. *Tips* simple, or roundish.

POINT. *Seedbud* beneath. *Shafts* two; generally distant. *Summits* simple.

S. VESS. None.

SEEDS. Two; scored: convex on one side, flat on the other.

OBS. *Stems* hollow, or pithy. *Leaves* alternate.

In dry situations these plants are aromatic and carminative: in moist ones, often poisonous. The greatest virtues are contained in the seeds and roots. Many of them are employed in our kitchens, as the roots of CARROT and PARSNEP; the leaves of CELERY, and the seeds of CORIANDER.

CLASS

C L A S S V.

FIVE CHIVES.

ORDER I. ONE POINTAL.

* *Flowers of one petal: beneath. Seeds four; naked.* ROUGH LEAVES.

60 VIPERGRASS. *Bloss.* mouth naked; irregular; bell-shaped.

61 LUNGWORT. *Bloss.* mouth naked; funnel shaped.
Cup prism-shaped.

62 GROMWELL. *Bloss.* mouth naked; funnel-shaped.
Cup with five divisions.

63 COMFREY. - *Bloss* mouth toothed; distended.

64 BORRAGE. - *Bloss.* mouth toothed; wheel shaped.

65 BUGLOSS. - *Bloss.* mouth vaulted; funnel-shaped.
Tube crooked.

66 MADWORT. - *Bloss.* mouth vaulted; funnel shaped;
Fruit compressed.

67 HOUNDSTONGUE. *Bloss.* mouth vaulted; funnel shaped.
Seeds depressed and fixed to the side of the shaft.

68 ALKANET. - *Bloss.* mouth vaulted; funnel-shaped.
Tube prism-shaped at the base.

69 SCORPIONGRASS. *Bloss.* mouth vaulted; salver-shaped:
Segments notched at the end.

* * *Flowers of one petal: beneath. Seeds in a vessel.*

70 PIMPERNEL. *Capsule* of one cell: cut round. *Bloss.*
wheel-shaped. *Summit* a knob.

71 LOOSESTRIFE. *Caps.* of one cell and ten valves.
Bloss. wheel-shaped. *Summit* blunt.

72 Primrose

- 72 PRIMROSE. - *Caps.* of one cell. *Bloss.* funnel-shaped: mouth open. *Summit* globular.
- 73 FEATHERFOIL. *Caps.* of one cell. *Bloss.* the tube beneath the chives! *Summit* globular.
- 74 BUCKBEAN. - *Caps.* of one cell. *Blossom* woolly! *Summit* cloven,
- 75 BINDWEED. - *Caps.* with two cells and two feeds. *Bloss.* bell-shaped. *Summit* cloven.
- 76 THORNAPPLE. *Caps.* with two cells, and four valves! *Bloss.* funnel-shaped. *Cup* deciduous.
- 77 HENBANE. - *Caps.* with two cells: covered with a lid! *Bloss.* funnel-shaped. *Summit* a knob.
- 78 MULLEIN. - *Caps.* with two cells. *Bloss.* wheel-shaped. *Summit* blunt. *Chives* declining.
- 79 JACOBSLADDER. *Caps.* with three cells. *Bloss.* with five divisions. *Chives* standing upon the valves of the tube.
- 80 ROSEBAY. - *Caps.* with five cells. *Bloss.* bell-shaped. *Summit* blunt.
- 81 PERRIWINKLE. *S. Vess.* two upright little bags. *Bloss.* falver-shaped. *Seeds* not winged.
- 82 NIGHTSHADE. *Berry* with two cells. *Tips* with two holes in each!
- 83 DWALE. - *Berry* with two cells. *Chives* distant: bowed inwards.

† *Centaury Gentian.* † *Peloria*; see *Common Toad-flax.*

*** *Flowers of one Petal; superior.*

- 84 MARSHWORT. *Caps.* with one cell; and five valves at the top. *Bloss.* falver-shaped: *Summit* a knob.
- 85 RAMPION. - *Caps.* with two or three cells: perforated. *Bloss.* with five divisions. *Summit* with two or three clefts.
- 86 BELLFLOWER. *Caps.* with three or five cells; perforated. *Bloss.* bell-shaped. *Summit* with three clefts,
- 87 HONEYSUCKLE. *Berry*, with two cells; roundish. *Bloss.* unequal. *Summit* a knob.

88 BUCKTHORN.

**** *Flowers of five Petals; beneath.*

88 BUCKTHORN. Berry with three cells; globular. Cup tubular, resembling a blossom; with five converging scales at the mouth of the tube.

89 SPINDLE. - Berry resembling a capsule; lobed. Cup expanding. Seed like a berry; covered with an outer coat.

† Violet.

***** *Flowers of five Petals; superior.*

90 CURRANT. - Berry with several seeds. Petals standing on the cup. Shaft cloven.

91 IVY. - - Berry with five seeds. Cup binding round the fruit. Summit simple.

***** *Flowers imperfect; beneath.*

92 KNOTGRASS. Caps. with one seed and five valves. Cup simple; rough and inelegant.

93 SALTWORT. - Caps. with five seeds; and five valves. Cup simple; bell-shaped; very rough and inelegant.

† Perennial Snake-weed. † Orache.

***** *Flowers imperfect; superior.*

94 FLUELLIN. - Seed single; crowned. Cup bearing the chives.

Order II. Two Pointals.

* *Flowers of one Petal: beneath.*

95 FELWORT - Caps. with one cell and two valves. Bloss. wheel-shaped, with ten honeycup pores.

96 GENTIAN. - Caps. with one cell and two valves. Bloss. tubular; variously shaped.

H

** Flowers

FIVE CHIVES.

** *Flowers of five Petals; beneath.*

† *Tree Bladdernut.*

*** *Flowers imperfect.*

- 97 KELPWORT. - Seed one; resembling a snail-shell, covered. Cup five leaves.
- 98 BLITE. - - Seed one; round and flat. Cup five concave leaves.
- 99 BEET. - - Seed one; kidney-shaped. Cup five leaves; seed at the bottom of the cup.
- 100 RUPTUREWORT. Seed one; egg-shaped; covered. Cup with five divisions. Five *Threads* with, and five without tips.
- 101 ELM. - - Berry not juicy; compressed. Cup one leaf; soon shrivelling.

† *Common Dodder.*

**** *Flowers of five Petals: superior and two seeds. In RUNDLES.*

A. FENCE both general and partial.

- 102 ERYNGO. - Florets growing in globular heads. The receptacle chaffy.
- 103 PENNYWORT. Florets in a sort of rundle; fertile. Seeds compressed.
- 104 SANICLE. - Florets in a sort of rundle: those in the centre barren. Seeds covered with sharp points.
- 105 MADNEP. - Florets unequal; almost all fertile. Fence deciduous. Seeds membranaceous.
- 106 DROPWORT. Florets unequal; those in the circumference barren. Fence simple. Seeds crowned; fitting.
- 107 PRICKLENEP. Florets unequal; several barren. Fence simple. Seeds fitting.
- 108 HENSFOOT. Florets unequal; those in the centre barren. Fence simple. Seeds covered with sharp points.
- 109 CARROT. - Florets unequal; those in the centre barren. Fence winged. Seeds covered with prickles.

110 HARTWORT.

- 110 HARTWORT. *Florets* unequal; all fertile. *Fence* simple. *Seeds* with a scolloped border.
- 111 HARESPONG. *Florets* equal; those in the centre barren. *Fence* simple, *Seeds* scored; covered.
- 112 HEMLOCK. *Florets* equal; all fertile. *Petals* heart-shaped. *Partial fence* extending but half way round. *Seeds* hunched, ribbed and furrowed.
- 113 PIGNUT. - *Florets* equal; all fertile. *Petals* heart-shaped. *Partial fence* bristly.
- 114 SPIGNAL. - *Florets* equal; all fertile. *Petals* heart-shaped. *Seeds* convex, scored.
- 115 THOROUGHWAX. *Florets* equal; all fertile. *Petals* rolled inwards. (The leaves of the *partial fence* often resemble petals.)
- 116 KEX. - - *Florets* equal; all fertile. *Petals* heart-shaped. *Seeds* nearly egg-shaped, scored.
- 117 SAMPHIRE. *Florets* equal; all fertile. *Petals* rather flat. *Fence* horizontal.
- 118 LOVAGE. - *Florets* equal; all fertile. *Petals* rolled inwards. *Fence* membranaceous.
- 119 ANGELICA. *Florets* equal; all fertile. *Petals* rather flat. *Rundlets* globular.
- 120 HONEWORT. *Florets* equal; all fertile. *Petals* rather flat. *Rundlets* of few florets.

† *Coriander*. † *Celery Smal'age*.

B. *Fence* only partial.

- 121 CICELY. - *Florets* rather unequal; all fertile. *Partial fence* extending but half way round.
- 122 CORIANDER. *Florets* unequal; some of them barren. *Fruit* nearly globular.
- 123 SHEPHERDSNEEDLE. *Florets* unequal; those in the centre barren. *Fruit* oblong.
- 124 COW-WEED. *Florets* unequal; those in the centre generally barren. *Partial fence* of five leaves.
- 125 WATERWORT. *Florets* nearly equal; all fertile. *Fruit* crowned.

FIVE CHIVES.

126 COWBANE. *Florets nearly equal; all fertile. Petals rather flat.*

† *Round-leaved Thorough-wax.*

† *Cows Madnep.*

† *Hemlock Dropwort.*

† *Fine-leaved Hens-foot.*

† *Creeping Flax.*

† *Wild Angelica.*

C. No Fence.

127 ALEXANDERS. *Florets equal; those in the centre barren. Seeds kidney-shaped: angular.*

128 CARAWAY. *Florets nearly equal; those in the centre barren. Seeds hunched; scored.*

129 PARSNEP. - *Florets nearly equal; all fertile. Seeds depressed and flat.*

130 FENNEL. - *Florets nearly equal; all fertile. Seeds bordered; scored.*

131 GOUTWEED. *Florets nearly equal; all fertile. Seeds hunched; scored. Petals heart-shaped.*

132 SMALLAGE. *Florets equal; almost all fertile. Seeds small; scored. Petals bent inwards.*

133 BREAKSTONE. *Florets nearly equal; all fertile. Petals heart-shaped. Before flowering the Rundles nodding.*

Order III. Three Pointals.

* *Blossoms superior.*

134 MEALTREE. *Bloss. with five clefts. Berry with one seed.*

135 ELDER. - *Bloss. with five clefts. Berry with three seeds.*

* * *Blossoms beneath.*

136 BLADDERNUT. *Bloss. five petals. Caps. with two or three clefts: bladder-shaped.*

137 CHICKWEED. *Bloss. five petals. Caps. with one cell. Cup five leaves. Petals cloven.*

† *Water Blinks.* † *Sea Sandwort.*

Order

Order IV. Four Pointals.

- 138 PARNASSUS. *Bloss.* five petals. *Caps.* with four valves. *Honey-cups* five. Fringed with glands.

Order Five. Five Pointals.

- 139 FLAX. - - *Bloss.* five petals. *Caps.* with ten cells.
 140 SUNDEW. - *Bloss.* five petals. *Caps.* with one cell; opening at the top.
 141 SIBBALD. - *Bloss.* five petals. Seeds five. *Cups* with ten clefts.
 142 THRIFT. - *Bloss.* with five divisions. *Seed* single; inclosed in the funnel-shaped Cup.

† *Five-chived Mouse-ear.* † *Five-chived Spurrey.* † *Cranes-bill.*

Order VI. Many Pointals.

- 143 MOUSETAIL. *Cup* with five leaves. *Honeycups* five; tongue-shaped. *Seeds* numerous.
 † *Ivy-leaved Crowfoot.*

60 VIPERGRASS. 191 Echium.

EMPAL. *Cup* with five divisions, upright, permanent. *Segments* awl-shaped, upright.

BLOSS. One petal; bell-shaped. *Tube* very short. *Border* gradually widening; with five clefts, blunt; upright. *Segments* often unequal, the two upper ones being the longest; the lower, smaller; sharp; reflected. *Mouth* open.

CHIVES. *Threads* five; as long as the blossom; awl-shaped; declining; unequal. *Tips* oblong; fixed sideways to the threads.

POINT. *Seed-buds* four; *Shaft* thread-shaped; as long as the chives. *Summit* blunt; cloven.

S. VESS. None. The cup becoming more inflexible, contains the seeds.

SEEDS. Four: roundish; obliquely tapering.

Wall
Italicum

VIPERGRASS. The stem upright; hairy; the spikes rough with hair. Blossoms nearly equal. Chives exceedingly long.—*Blossoms blue.*

Echium alterum five lycopsis anglica. Ray's Syn. 228.

English Viper Bugloss. *Hudson's Flor. Angl. 70.*

1. Blossoms nearly equal, scarcely longer than the empalement with soft hairs at the border.—*Blue; purple; or white.*

Lycopsis. Baub. pin. 255. Park. 519. Gerard. 802. Ray's Syn. 227.

Wall Vipers Bugloss.

In sandy cornfields and road-sides. P. July. August.

Common
Vulgare

VIPERGRASS. The stem rough with hairs and tubercles. The stem leaves spear-shaped, and rough with hair. Flowers in lateral spikes—*first red, afterwards blue; sometimes purple; or white.*

Echium vulgare. Baub. pin. 254. Park. 414. Gerard. 802. Ray's Syn. 227.

Viper Bugloss.

Cows and Sheep are not fond of it. Horses and Goats refuse it.—The flowers are highly grateful to Bees.

61 LUNGWORT. 184 Pulmonaria.

EMPAL. Cup of one leaf; with five teeth and five angles; permanent.

BLOSS. One petal; funnel-shaped. Tube cylindrical; as long as the empalement. Border with five shallow clefts; blunt; not quite upright. Mouth open.

CHIVES. Threads five; very short; in the mouth of the tube. Tips upright; approaching.

POINT. Seed-buds four; Shaft thread-shaped; shorter than the empalement. Summit blunt; notched at the end.

S. VESS. None. The Empalement unchanged contains the seeds in its base.

SEEDS. Four; roundish; blunt.

LUNGWORT.

LUNGWORT. The cups as long as the tube of the blof Broadleaved
som. Root-leaves betwixt egg and heart-shaped; rough—*Blof- Officinalis*
soms purple when newly expanded, but afterwards blue. Stems rough.
Tube of the blossom white; mouth hairy.

Pulmonaria foliis echii. Gerard. 808.

Symphytum maculosum, seu pulmonaria latifolia. Baub.
pin. 259.

Pulmonaria latifolia. Park. 248.

Bugloss Cowslips. long leaved sage of Jerusalem. Spotted
Lungwort.

Hampshire, in woods. P. May.

When burnt it affords a larger quantity of ashes than almost
any other vegetable; often a seventh part of its own weight.—

Sheep and Goats eat it. Cows are not fond of it. Horses
and Swine refuse it—It nourishes an insect, called the *Chrysomela*
Nemorum.

LUNGWORT. The cup but half as long as the tube of the Sea
blossom; leaves egg-shaped; stem branched; trailing—*Blossoms Maritima*
purple.

Echium marinum. Ray's Syn. 228.

Buglossum dulce ex insulis Lancastriæ. Park. 765.

Sea Bugloss.

On sandy shores. P. July.

62 GROMWELL. 181 Lithospermum.

EMPAL. Cup with five divisions; oblong, straight, sharp;
permanent. Segments awl shaped, and keel-shaped
on the back.

BLOSS. One petal funnel-shaped; as long as the empale-
ment. Tube cylindrical. Border with five shallow
clefs; blunt, upright. Mouth open.

CHIVES. Threads five; very short. Tips oblong, stand-
ing in the mouth of the blossom.

POINT. Seedbuds four. Shaft thread-shaped; as long as
the tube of the blossom. Summit blunt; cloven.

S.VESS. None. The seeds are contained at the bottom
of the open cup.

SEEDS. Four; egg-shaped; tapering; hard; smooth.

Common
Officinale

GROMWELL. The leaves smooth; blossoms hardly longer than the cup. Leaves spear-shaped.—*The seeds are as hard as bone. Blossoms white.*

Lithospermum majus erectum. Baub. pin. 258.

Lithospermum minus. Gerard. 609.

Lithospermum vulgare minus. Park. 432.

Lithospermum seu milium folis. Ray's Syn. 228.

Gromill. Graymill.

In dry gravelly soil. P. May. June.

Grew says the seeds have so much earth in their composition that they effervesce with acids.—Sheep and Goat eat it. Cows and Horses refuse it.

Lesser
Arvense

GROMWELL. The seeds wrinkled. Blossoms hardly longer than the cups—*White; on short fruit-stalks. Roots reddish.*

Lithospermum arvense radice rubra. Baub. pin. 258. Park. 432. Ray's Syn. 227.

Anchusa degener facie milii folis. Gerard. 610.

Bastard Alkanet.

In cornfields, common. A. May. June.

The girls in the North of Europe paint their faces with the juice of the root upon days of festivity—The bark of the root tinges wax and oil of a beautiful red, similar to that which is obtained from the root of the foreign Alkanet that is kept in the shops.—Sheep and Goats eat it. Cows are not fond of it. Horses and Swine refuse it.

Alkanet
Purpureo-
cæruleum

GROMWELL. The seeds smooth: blossom greatly longer than the cup—*The barren stems creeping and sending forth roots. The flowering stems upright. Blossoms purple.*

Lithospermum minus repens latifolium. Baub. pin. 258.

Lithospermum majus. Gerard. 609.

Lithospermum vulgare majus. Park. 258.

Lithospermum majus dodonæi, flore purpureo, femine anchusæ. Ray's Syn. 229.

Lesser creeping Gromwell.

On hills. P. June.

63 COMFREY. 185 Symphytum

EMPAL. *Cup* with five divisions and five corners; upright; sharp; permanent.

BLOSS. One petal; bell-shaped. *Tube* very short. *Border* tubular; distended; thicker than the tube; *Mouth* with five teeth; blunt; reflected. *Mouth of the Tube* furnished with five awl-shaped valves shorter than the border, approaching so as to form a cone.

CHIVES. *Threads* five; awl-shaped; standing alternately with the valves in the mouth of the tube. *Tips* upright; sharp, covered.

POINT. *Seed-buds* four. *Shaft* thread-shaped, as long as the blossom. *Summit* simple.

S.VESS. None. The *Cup* grows larger and wider.

SEEDS. Four; hunched, tapering; approaching at the points.

COMFREY. The leaves betwixt egg and spear-shaped; Common running along the stem—*Blossoms* yellowish white, or purple. Officinal

Symphytum majus vulgare. Park. 523.

Symphytum consolida major. Baub. pin. 259. Gerard. 660.

Symphytum magnum. Ray's Syn. 230.

1. There is a variety with purple blossoms.

On the banks of rivers and wet ditches. P. May.

The particles of the dust appear in the microscope like two globules united together---the leaves give a greatful flavour to cakes and panadoes---The roots are glutinous and mucilaginous.

Cows and Sheep eat it. Horses, Goats and Swine refuse it.

64 BORRAGE. 181 Borago.

EMPAL. Cup with five divisions; permanent.

BLOSS. One petal; wheel-shaped; as long as the empale-ment. Tube shorter than the cup. Border with five divisions; wheel shaped, flat. The Mouth crowned with five projecting substances, which are blunt and notched at the end.

CHIVES. Threads five; awl-shaped; approaching. Tips oblong; approaching; fixed by the middle to the inner side of the thread.

POINT. Seedbuds four. Shaft thread-shaped: longer than the chives. Summit simple.

S. VESS. None. The cup grows larger and bladder-shaped.

SEEDS. Four; roundish; wrinkled; keel-shaped out-wardly towards the point; globular at the base: lying lengthways in a hollow of the receptacle.

Common
Officinalis

BORRAGE with all the leaves alternate; cups expanding; fruit-stalks terminating; supporting several flowers—*This plant originally came from Aleppo; but it is now found in many parts of Europe. Leaves egg-shaped; embracing the stem. Blossoms a fine blue. Tips black.*

Borrage hortensis. Gerard. 797. Ray's Syn. 228.

Buglossum latifolium, Borrage, Baub. pin. 256.

The varieties are

1. Blossoms white.
2. Blossoms rose-coloured.
3. Leaves variegated.

On walls and amongst rubbish. P. June. August.

By the experiments of Mr. Marggraff, *Mem. de Berlin. 1747* pa. 72. it appears that the juice affords a true nitre—It is now seldom used inwardly but as an ingredient in cool tankards for summer drinking, though the young and tender leaves are good in fallads, or as a pot-herb.—It affords nourishment to the Lambda Moth, *Phalæna Gramma*.

65 BUGLOSS. 190 Lycopsis.

EMPAL. *Cup* with five divisions: permanent. *Segments* oblong; sharp; open.

BLOSS. One petal; funnel-shaped. *Tube* cylindrical; crooked. *Border* with five shallow clefts; blunt. *Mouth* closed by five prominent, convex, approaching valves.

CHIVES. *Threads* five, very small; fixed to the bend of the *Tube*, *Tips* small, covered; the mouth of the blossom being closed.

POINT. *Seedbuds* four. *Shaft* thread-shaped; as long as the chives. *Summit* blunt; cloven.

S. VESS. None. The *Cup* very large and bladder-shaped incloses the seed.

SEEDS. Four, rather long; covered by a dry hard wrinkled coat.

DES. *The essential character of this genus consists in the curvature of the tube of the blossom.*

BUGLOSS. The leaves rough with hair; spear-shaped. Wild Cups upright whilst the plant is in flower—*The whole plant is Arvensis rough with strong hairs. Blossoms blue.*

Buglossum sylvestre minus. Baub. pin. 256. Park. 765.

Buglossa sylvestris minor. Gerard. 799. Ray's Syn. 227.

Small wild Bugloss.

Ploughed fields and road sides. A. June. September.

Cows, Horses, Sheep and Goats eat it. Swine refuse it.

66 MADWORT. 189 Asperugo.

EMPAL. *Cup* of one leaf; permanent: with five upright, unequal segments.

BLOSS. One petal; funnel-shaped. *Tube* cylindrical; very short. *Border* with five shallow clefts; blunt; small. *Mouth* closed by five convex, projecting, approaching valves.

CHIVES. *Threads* five; very short; fixed in the mouth of the *Tube*. *Tips* rather oblong; covered.

POINT. *Seedbuds* four; compressed. *Shaft* thread-shaped; short. *Summit* blunt.

S. VESS. None. The *Cup* very large; upright; compressed; closes upon and contains the seeds.

SEEDS. Four; oblong; compressed; in distant pairs.

MADWORT.

Goosegrafs
Procumbens

MADWORT. The cup containing the ripe fruit, compressed
—*Blossoms purple.*
Buglossum sylvestre, caulibus procumbentibus. *Baub. pin.* 257.
Borago minor sylvestris. *Park.* 765.
Aparine major. *Gerard.* 1122.
Small wild Bugloss. Great Goose-grafs. German Madwort.
In roads and amongst rubbish. A. April. May.
Horses, Goats, Sheep and Swine eat it. Cows are not fond
of it.

67 HOUNDSTONGUE. 183 Cynoglossum.

EMPAL. Cup with five divisions; oblong; sharp; permanent.

BLOSS. One petal; funnel-shaped; as long as the empalement. Tube cylindrical; shorter than the Border. Border with five shallow clefts; blunt. Mouth closed by five convex, prominent, approaching valves.

CHIVES. Threads five; very short; fixed to the mouth of the blossom. Tips roundish; naked.

POINT. Seedbuds four. Shaft awl-shaped; as long as the chives; permanent. Summit notched at the end.

S. VESS. None; but the seedcoats of the four seeds; depressed, roundish, outwardly more blunt; rough; not opening; flat upon the outer side; fixed by their points.

SEEDS. Four; somewhat egg-shaped; hunched, tapering; smooth.

OBS. The essential character of this genus consists in the four seedcoats, each inclosing a single seed; and fixed to the shaft.

Stinking
Officinale

HOUNDSTONGUE. Chives shorter than the blossom. Leaves broad; spear-shaped; sitting; downy—*Blossoms purple sometimes white.*

Cynoglossum majus vulgare. *Baub. pin.* 257. *Gerard.* 804. *Park.* 511. *Ray's Syn.* 226.

1. There is a variety with greener leaves. *Ray's Syn.* 226.

Great Houndstongue.

Road sides and amongst rubbish. P. June.

Both the root and leaves have been suspected to possess narcotic properties, but others will not admit the fact. It is discarded from the present practice. The smell of it is very disagreeable.

Goats eat it. Cows, Horses, Sheep and Swine refuse it.

It furnishes food for the Scarlet Tyger Moth, *Phalæna Domina.*

68 ALKANET

68 ALKANET. 182 Anchusa.

EMPAL. *Cup* with five divisions; oblong; cylindrical; sharp; permanent.

BLOSS. One petal; funnel-shaped. *Tube* cylindrical; as long as the empalement. *Border* with five shallow clefts; blunt; not quite upright. *Mouth* closed by five convex, prominent, oblong, approaching valves.

CHIVES. *Threads* five; very short; fixed to the mouth of the blossom. *Tips* oblong; covered; fixed sideways to the threads.

POINT. *Seedbuds* four. *Shaft* thread-shaped; as long as the chives. *Summit* blunt; notched at the end.

S. VESS. None. The *Cup* grows larger and upright; and includes the seeds within it.

SEEDS. Four; rather long; blunt; hunched.

OBS. *When the blossom is fully expanded it is nearly salver-shaped.*

ALKANET with flowers growing in heads; upon fruit-stalks which are furnished with two leaves—

Evergreen
Sempervirens

The stems proceeding from the sides of the crown of the root are upright and rough with hair. *Leaves* betwixt egg and strap-shaped; on leaf-stalks; remote; spotted with white. *Fruit-stalks* rising from the base of the leaves are furnished with two opposite, sitting, floral leaves, betwixt spear and egg-shaped. Several flowers upon each fruit-stalk. The *Blossoms* blue and the tube short.

Buglossum latifolium sempervirens. *Bauh. pin.* 256.

Borrago sempervirens. *Gerard.* 797. *Ray's Syn.* 227.

Road sides and amongst rubbish. P. May. June.

Cows, Horses, Sheep and Goats eat it. Swine are not fond of it.

69 SCORPIONGRASS. 180 Myosotis.

EMPAL. *Cup* with five shallow clefts; oblong; upright; sharp: permanent.

BLOSS. One petal; falver-shaped. *Tube* cylindrical; short. *Border* flat; with five shallow clefts. *Segments* blunt; notched at the end. *Mouth* closed with five convex, prominent, approaching valves.

CHIVES. *Threads* five: very short; fixed to the neck of the tube. *Tips* very small; covered.

POINT. *Seedbuds* four. *Shaft* thread-shaped; as long as the tube of the blossom. *Summit* blunt.

S. VESS. None. The *Cup* large and upright contains the seeds within it.

SEEDS. Four; egg-shaped; tapering; smooth.

OBS. In some species the seeds are covered with hooked prickles.

Mouse-Ear
Scorpioides.

SCORPIONGRASS with naked seeds and the points of the leaves callous—*This varies considerably in different situations. In dry situations the plant and flowers are smaller; in moist ones both are larger and sometimes hairy. The Blossoms vary from a full blue to a very pale one, or sometimes a yellow; and are in a long spirally twisted spike.*

Myosotis scorpioides hirsuta. Park. 691. Ray's Syn. 229 Gerard. 337.

Echium scorpioides arvense. Baub. pin. 254.

In dry fields and on the margin of springs and rills. P. April. August.

When it grows in the water, and its taste and smell thereby rendered less observable. Sheep will sometimes eat it, but it is generally fatal to them---Cows, Horses, Swine and Goats refuse it.

ONE POINTAL.

III

70 PIMPERNEL 206 Anagallis.

EMPAL. Cup with five divisions; sharp; permanent.
Segments keel-shaped.

BLOSS. One petal; wheel shaped. Tube none. Border with five divisions; flat. The Segments roundish egg-shaped; connected by the claws.

CHIVES. Threads five; upright hairy towards the bottom; shorter than the blossom. Tips simple.

POINT. Seedbud globular. Shaft thread-shaped; a little inclining. Summit knobbed.

S. VESS. Capsule globular: of one cell; cut round.

SEEDS. Several; angular. Receptacle very large; globular.

PIMPERNEL with undivided leaves and a trailing stem—Common
Leaves betwixt egg and spear-shaped. Blossoms red. They open Arvensis
about eight in the morning; but close in the afternoon.

Anagallis flore phæniceo. Baub. pin. 252. Park. 558.
Ray's Syn. 282.

There are three varieties, viz.

1. Red flowered with larger leaves, four at a joint. Ray's Syn. 282.

2. Blue flowered, or Female Pimpernel. Gerard. 617. Ray's
Syn. 282. Baub. pin. 252.

3. White flowered. Ray's Syn. 282.

Male Pimpernel. 2. Female Pimpernel.

In sandy cornfields. A. May. August.

Cows and Goats eat it. Sheep refuse it. Small Birds are
highly delighted with the seeds.

71 LOOSESTRIFE. 205 Lythimachia.

EMPAL. Cup with five divisions; sharp; upright; permanent.

BLOSS. One petal; wheel-shaped. Tube none. Border with five divisions; flat. Segments oblong egg shaped.

CHIVES. Threads five; awl-shaped. Tips tapering.

POINT. Seedbud roundish. Shaft thread-shaped; as long as the chives. Summit blunt.

S. VESS. Caps. globular; with one cell and ten valves.

SEEDS. several; angular. Receptacle very large; globular, dotted.

LOOSE-

* *Fruit-stalks with several flowers.*

Yellow
Vulgaris

LOOSESTRIFE. The flowers in paniced bunches, terminating—*Stem scored; hairy. Leaves spear-shaped, three or four at each joint. Blossoms yellow.*

Lyfimachia lutea. Gerard. 474. Ray's Syn. 282.

Lyfimachia lutea major. Baub. pin. 245. vulgaris. Park. 544.

1. There is a variety with shorter and broader leaves. *Ray's Syn. 282.*

Yellow Willowherb.

Banks of rivers and shady marshes. P. June. July.—The leaves give a yellow dye to wool.

Cows and Goats eat it. Sheep are not fond of it. Horses and Swine refuse it.

Tufted
Thyriflora

LOOSESTRIFE. The flowers on fruit-stalks in lateral bunches—*Blossoms cloven down to the base, with very short teeth intervening. The ends of the petals marked with tawny spots. Blossoms yellow. Leaves, two at each joint.*

Lyfimachia lutea, flore globofo. Gerard. 475. Park. 544. Ray's Syn. 283.

Lyfimachia bifolia flore globofo luteo. Baub. pin. 245.

Marshes and banks of rivers, near King's Langley in Hertfordshire.

In the Isle of Anglesea. P. June.

Goats eat it. Cows and Sheep are not fond of it. Horses and Swine refuse it.

** *Fruit-stalks with only flower.*

Pimpernel
Nemorum

LOOSESTRIFE with sharp egg-shaped leaves; solitary flowers and trailing stems—*Blossoms yellow. Stem cylindrical.*

Anagallis lutea. Gerard. 618. nemorum. Baub. pin. 252.

Anagallis flore luteo. Park. 558.

Yellow Pimpernel of the woods.

In moist shady places. P. May. June.

Moneywort
Nummularia

LOOSESTRIFE. The leaves somewhat heart-shaped; flowers solitary; stem creeping—*Four cornered. Blossoms yellow.*

Nummularia. Gerard. 630. vulgaris. Park. 555.

Nummularia major lutea. Baub. pin. 309.

In moist meadows. P. June.

The plant is a little acrid and sub-astringent.

Cows and Sheep eat it. Goats are not fond of it. Horses refuse it.

LOOSE-

LOOSESTRIFE. The leaves rather sharp and egg-shaped; Purple fruit-stalks longer than the leaves; stem creeping—*Chives* very Tenella woolly. Blossoms red.

Nummularia minor flore purpurascens. *Baub. pin.* 310.
Park. 555. *Gerard.* 630. *Ray's Syn.* 283.

Purple Moneywort.

In turfy bogs. P. July. August.

72 PRIMROSE. 197 Primula.

EMPAL. *Fence* small; of many leaves; including several flowers. *Cup* one leaf; tubular; sharp; upright; permanent, with five angles and five teeth.

BLOSS. One petal. *Tube* cylindrical; as long as the cup; terminated by a short hemispherical neck. *Border* expanding, with five shallow clefts. *Segments* inversely heart-shaped; notched at the end; blunt. *Mouth* open.

CHIVES. *Threads* five; very short; within the neck of the blossom. *Tips* upright; approaching; tapering; within the tube.

POINT. *Seedbud* globular. *Shaft* thread-shaped; as long as the cup. *Summit* globular.

S. VESS. *Capsule* cylindrical; nearly as long as the cup, which covers it; of one cell: opening at the top with ten teeth.

SEEDS. Numerous; roundish. *Receptacle* oblong; egg-shaped; loose.

PRIMROSE. The leaves wrinkled and toothed—*A single* Common flower only upon a fruit-stalk. Blossoms pale yellow.

Primula veris vulgaris. *Park.* 536. *Ray's Syn.* 284. *Vulgaris*

Primula veris minor. *Gerard.* 781.

Verbasculum fylvarum majus singulari flore. *Baub pin.* 241.

In woods and hedges, frequent. P. April.

Gerard reports that a dram and a half of the dried roots, taken up in autumn, operates as a strong but safe emetic.

Sheep and Goats eat it. Cows are not fond of it. Horses and Swine refuse it.

Cowslip 1.
Veris

PRIMROSE. The leaves wrinkled; toothed—Stalk supporting several flowers, which are yellow and agreeably scented.

Primula veris major. Gerard. 781.

Verbasculum pratense odoratum. Baub. pin. 241.

Paralyfis vulgaris pratensis, flore flavo simplici odorato. Park. 535.

Pagils. Paigles. Cowslips.

In pastures.

The flowers are used for making cowslip wine. The Leaves may be eaten as a pot-herb, or in sallads. The root hath a fine smell, like anise.

Oxlip 2.
Elatior

PRIMROSE. Larger than the preceding; without smell. Border of the blossom flat: pale yellow.

Verbasculum pratense aut sylvaticum inodorum. Baub. pin. 241.

Primula pratensis inodora lutea. Gerard. 780. Ray's Syn. 284.

In high barren pastures. P. April. May.

Different as these varieties may seem, it would be wrong to rank them as distinct species, says Linnæus: and the accurate Dr. Martyn in his *Catal. Hort. Botan. Cantab.* p. 30, says, experience hath taught him to adopt the same opinion; though at the same time, with that candour which ever distinguishes real merit, he quotes a different opinion from another author.

The different kinds of Polyanthus, so much admired by florists, all originate from these.

Mealy
Farinosa

PRIMROSE. Leaves smooth, scolloped. Border of the blossom flat—The fruit-stalks and cups are beautifully covered with the dust. Blossoms red.

Primula veris flore rubro. Gerard. 783.

Verbasculum umbellatum alpinum minus. Baub. pin. 247.
Ray's Syn. 285.

Paralyfis minor flore rubro. Park. 246.

Birds Eye.

In marshes and bogs, upon mountains in the North. P. May.

The flowers are beautiful, but they indicate a barren soil.

Horses, Sheep and Goats eat it. Cows refuse it.

The great yellow under-winged Moth, *Phalena Pronuba*, lives upon the different species and varieties of the Primrose.

73 FEATHERFOIL. 203 Hottonia.

EMPAL. Cup of one leaf, with five divisions. Segments strap-shaped; not quite upright.

BLOSS. One petal; salver-shaped. Tube as long as the empalement. Border with five clefts; flat. Segments oblong, egg-shaped; notched at the end.

CHIVES. Threads five; awl-shaped; short; upright; standing upon the tube and opposite to the segments of the blossom. Tips oblong.

POINT. Seedbud globular, tapering. Shaft thread-shaped; short. Summit globular.

S. VESS. Capsule globular, tapering; with one cell; standing upon the empalement.

SEEDS. Many, roundish. Receptacle globular; large.

OBS. Some flowers have six chives; and then the cup and the blossom is divided into six segments.

FEATHERFOIL with numerous flowers; on fruit-stalks, Water growing in whorls—The leaves like those of the Featherwort are Palustris concealed under water, only the spikes of flowers rising above the surface. Leaves winged. Blossoms white or tinged with pale purple.

Hottonia. Ray's Syn. 285.

Millefolium aquaticum seu viola aquatica caule nudo. Bauh. pin. 141.

Millefolium aquaticum floridum seu viola aquatica. Park. 1256.

Viola palustris. Gerard. 826.

Water Violet.

In ponds and ditches. P. July. August.

Cows eat it. Swine refuse it.

74 BUCKBEAN. 202 Menyanthes.

EMPAL. *Cup* of one leaf with five upright divisions : permanent.

BLOSS. One petal ; funnel-shaped. *Tube* short, somewhat cylindrical at bottom but funnel-shaped upwards. *Border* cloven more than half way down into five *Segments*. The *Segments* blunt ; reflected ; expanding ; remarkably hairy.

CHIVES. *Threads* five ; awl shaped ; short. *Tips* sharp ; upright ; cloven at the base.

POINT. *Seedbud* conical. *Shaft* cylindrical ; nearly as long as the blossom. *Summit* cloven ; compressed.

S. VESS. *Capsule* egg-shaped ; of one cell : bound round by the cup.

SEEDS. Many ; egg-shaped ; small.

OBS. *The first species hath the segments of the petals fringed at the edges ; but the upper surface is not hairy.*

Lilly

Nymphoides

BUCKBEAN. The leaves heart-shaped, very entire ; the blossoms fringed at the edges. — *Flowers forming a simple rundle ; sitting upon the side of a leaf-stalk.* Blossoms yellow. Leaves sometimes spotted.

Nymphæa lutea minor, flore fimbriato. Baub. pin. 194. Ray's Syn. 368.

Fringed Water-lilly.

In large ditches and flow streams. P. June. July.

Trefoil

Trifoliata

BUCKBEAN with three leaves on each leaf-stalk. — *Flowers on fruit-stalks, opposite to the leaves. The segments of the blossoms stand wide and are fringed on the inner surface ; white or purplish.*

1. It varies in having broader or narrower leaves.

Menianthe palustre triphyllum, latifolium et angustifolium. Ray's Syn. 285.

Trifolium palustre. Baub. pin. 327.

Trifolium paludosum. Gerard. 1124. Park 1212.

In ponds and pits, frequent. P. June. July.

An infusion of the leaves is extremely bitter, and is prescribed in Rheumatisms and Dropsies. A dram of them in powder purges and vomits : it is sometimes given to destroy worms. In a scarcity of hops this plant is used in the North of Europe to bitter the ale. The powdered roots are sometimes used in Lapland instead of bread, but they are unpalatable. Some people say that Sheep will eat it, and that it cures them of the rot ; but from the Upsal experiments it appears, that though Goats eat it, Sheep sometimes will and sometimes will not. Cows, Horses and Swine refuse it.

75 BINDWEED. 215 Convolvulus.

EMPAL. *Cup* with five divisions, approaching; egg-shaped, blunt. small; permanent.

BLOSS. One petal; bell-shaped; expanding; large; plaited. The border slightly marked with five or ten notches.

CHIVES. *Threads* five; awl-shaped; half the length of the blossom. *Tips* egg shaped, compressed.

POINT. *Seedbud* roundish. *Shaft* thread-shaped; as long as the chives. *Summits* two; oblong and somewhat broad.

S. VESS. *Capsule* inclosed by the cup: roundish; with one, two, or three valves.

SEEDS. Two. Roundish.

OBS. *The species of Bindweed furnish nutriment to the Unicorn, or Bindweed Hawk Moth, Sphinx Convolvuli, and the Elephant Moth, Phalæna Elpenor.*

BINDWEED. The leaves arrow-shaped; sharp at each an- Small
gle. Generally one flower upon a fruit-stalk.—*Blossoms reddish Arvensis*
or white; or striped, or purple.

Convolvulus minor vulgaris. Park. 171. Ray's Syn. 275.

Convolvulus minor arvensis. Baub. pin. 294.

1. There is a variety with very small leaves, and another with very small flowers. *Ray's Syn. 2-6.*

In corn-fields, common. P. June. July.

Cows, Horses, Goats and Sheep eat it. Swine refuse it.

BINDWEED. The leaves arrow-shaped: the two angles at Great
the base lopped. Fruit-stalk four cornered; supporting a single *Sepium*
flower—*Edges of the leaves brown. Blossoms white; or purplish,*
or striped. Floral leaves two; close to the cup.

Convolvulus major albus. Baub. pin. 294. Park. 163.
Ray's Syn. 275.

Smilax lævis major. Gerard. 861.

In moist hedges. P. July. August.

Though the root is a very acrid purgative to the human race, it is eaten by Hogs in large quantities without any detriment. Scammony is the inspissated juice of a species of *Convolvulus* so much resembling this, that they are with difficulty distinguished. Can it then be worth while to import Scammony from Aleppo at a considerable annual expence, when a medicine with the very same properties grows spontaneously in many of our hedges?

Sheep, Goats and Horses eat it. Cows refuse it.

Sea.
Soldanalle

BINDWEED. The leaves kidney-shaped, only one flower upon a fruit-stalk—*Blossoms red.*

Convolvulus maritimus, soldanella dicta. Ray's Syn. 276.

Soldanella marina. Gerard. 861.

Soldanella maritima minor. Baub. pin. 295.

Soldanella vulgaris. Park. 161.

Scottish Scurvy-grass.

Common on the sea shore. P. July.

Half an ounce of the juice, or a dram of the powder, is an acrid purge. The leaves applied externally are said to diminish dropfical swellings of the feet.

76 THORNAPPLE. 246 Datura.

EMPAL. Cup of one leaf: oblong; tubular; distended; with five angles and five teeth; deciduous; but leaving a part of the base behind.

BLOSS. One petal; funnel-shaped. Tube cylindrical; generally longer than the cup. Border not quite upright, almost entire; with five angles, five tapering teeth, and five plaits.

CHIVES. Threads five; awl-shaped; as long as the cup. Tips oblong; blunt; compressed.

POINT. Seedbud egg-shaped. Shaft thread-shaped; straight. Summit thick: blunt; composed of two flat substances.

S. VESS. Capsule nearly egg-shaped; with two cells and four valves: standing upon the remains of the cup. Receptacle large; convex; dotted; fixed to the partition of the capsule.

SEEDS. Numerous, kidney-shaped.

Obs. The seed-vessel in most species is thick set with thorns.

Whiteflowered
Stramonium

THORNAPPLE. The seed-vessel upright; egg-shaped; thorny. Leaves egg-shaped—*Indented.* Blossoms white. At night the leaves, particularly the upper ones, rise up and inclose the flower. The blossoms have sometimes a tinge of purple, or violet.

Solanum pomo spinoso oblongo, flore calathoides, stramonium vulgo dictum. Ray's Syn. 265.

Solanum fastidum, pomo spinoso oblongo, flore albo. Baub. pin. 164. Stramonium spinosum. Gerard. 349.

Amongst rubbish; common about London. A. July.

An ointment prepared from the leaves gives ease in external inflammations and Hæmorrhoids. The Edinburgh College direct an extract to be prepared by evaporating the expressed juice of the leaves. The seeds or leaves given internally bring on delirium, and in a larger dose would undoubtedly prove fatal. Cows, Goats, Sheep and Horses refuse it.

77 HENBANE.

77 HENBANE. 247 Hyoscyamus.

EMPAL. *Cup* of one leaf tubular; distended in the lower part. *Rim* with five clefts, sharp; permanent.

BLOSS. One petal: funnel-shaped. *Tube* cylindrical; short. *Border* not quite upright; with five shallow clefts. *Segments* blunt; one broader than the rest.

CHIVES. *Threads* five; awl-shaped; inclining. *Tips* roundish.

POINT. *Seedbud* roundish. *Shaft* thread-shaped; as long as the chives. *Summit* somewhat globular.

S. VESS. *Capsule* egg-shaped, blunt; marked with a line upon each side. Cells two; cut round; covered with a lid that opens horizontally. Two capsules lying closely pressed together. *Receptacle* in the shape of half an egg, fixed to the partition of the capsule.

SEEDS. Numerous; unequal.

HENBANE with indented leaves, embracing the stem. Common
Flowers fitting—*Blossoms* purple and brown; clammy. Niger.

Hyoscyamus vulgaris. Ray's Syn. 274. Baub. pin. 169. Park.
362.

Hyoscyamus niger. Gerard. 353.

Road sides, and amongst rubbish. B. June.

The seeds, the leaves and the roots taken internally, are all poisonous: and many well attested instances of their bad effects are recorded. Madness, Convulsions, and death are the general consequence. In a smaller dose, they occasion giddiness and stupor. It is said that the leaves scattered about a house will drive away mice. The Edinburgh College order the expressed juice of the plant to be evaporated to an extract; and perhaps in this state it may be advantageously joined with opium, where the effects of that medicine are desirable, and costiveness is to be avoided. There is no doubt of it being an useful medicine under proper management. The dose is from half a scruple to half a dram.

Goats are not fond of it. Horses, Cows, Sheep and Swine refuse it.

The Henbane Chrysomela, *Chrysomela Hyoscyami*, and the Scarlet Bug, *Cimex Hyoscyami*, are found upon this plant.

FIVE CHIVES.

78 MULLEIN. 245 Verbascum.

EMPAL. *Cup* of one leaf with five divisions; small; permanent. *Segments* upright; sharp.

BLOSS. One petal; wheel-shaped. *Tube* cylindrical; very short. *Border* with five divisions, expanding. *Segments* egg-shaped, blunt.

CHIVES. *Threads* five; awl-shaped; declining; shorter than the blossom. *Tips* roundish; compressed; upright.

POINT. *Seedbud* roundish. *Shaft* thread-shaped; inclining; as long as the chives. *Summit* rather thick and blunt.

S. VESS. *Capsule* roundish with two cells, opening at the top. *Receptacle* the shape of half an egg, fixed to the partition of the seed-vessel.

SEEDS. Numerous; angular.

OBS. *In most species the chives are inclining, and the bottom of the threads clothed with soft coloured hairs.*

Great
Thapsus

MULLEIN. The leaves running along the stem; downy on both sides; stem simple—*Blossoms*, in a long terminating spike, yellow.

Verbascum mas latifolium luteum. *Baub. pin.* 239. *Ray's Syn.* 287.

Verbascum album vulgare, five Thapsus barbatus communis. *Park. 60.*

Thapsus barbatus. *Gerard.* 773.

Great White Mullein. Hightaper. Cows Lungwort.

In dry ditch banks, common. B. July.

Externally used it is emollient. It is said to intoxicate fish so that they may be taken with the hand.---In Norway they give it to cows that are consumptive.---The down serves for tinder. Neither Cows, Goats, Sheep, Horses or Swine will eat it. The Wate Bctony Moth, *Phalæna Verbasci*, and the Figwort Curculio, *Curculio Scrophularia*, live upon this plant.

Hoary
Lychnitis

MULLEIN. The leaves oblong; Wedge-shaped.—*Blossoms* yellow or white, in lateral and terminating spikes.

Verbascum flore albo parvo. *Ray's Syn.* 287.

Verbascum lichnitis flore albo parvo. *Baub. pin.* 240.

Verbascum mas, foliis longioribus. *Park. 60.*

Verbascum lichnitis matthioli. *Gerard.* 775.

1. There is a variety with a yellow flower. *Ray's Syn.* 287.

White flowered Mullein.

In sandy places. B. July.

Neither Cows, Goats, Sheep, Horses or Swine will touch it.

MULLEIN.

MULLEIN. The leaves oblong; heart-shaped, standing up- Black on leaf-stalks.—*The stem is beset with hairs that are beautifully Nigrum branched. Blossoms yellow; Tips purple.*

Verbascum nigrum flore parvo, apicibus purpureis. Ray's Syn. 288.

Verbascum nigrum flore ex luteo purpurascente. Baub. pin. 240.

Verbascum nigrum. Gerard. 775. vulgare. Park. 61.

Sage Leaved Black Mullein.

Hedges and road-sides. P. July.

This is a beautiful plant, and the flowers are grateful to Bees. Swine will eat it. Sheep are not fond of it. Cows, Horses and Goats refuse it.

MULLEIN. The leaves oblong; smooth; embracing the Moth stem. Fruit stalks solitary—*Blossoms yellow.*

Blattaria

Blattaria lutea. Ray's Syn. 288.

Blattaria lutea, folio longo laciniato. Baub. pin. 240.

Blattaria flore luteo. Park. 64.

Blattaria Plinii. Gerard. 776.

Yellow Moth Mullein.

In gravelly soils. A. June.

79 JACOBSLADDER. 217 Polemonium.

EMPAL. Cup beneath; of one glass-shaped leaf: permanent: sharp: with five shallow clefts.

BLOSS. One petal, wheel-shaped. Tube shorter than the cup; closed by five valves, placed at the top of it. Border with five divisions; large; flat. Segments roundish, blunt.

CHIVES. Threads five; thread-shaped; inclining; shorter than the blossom; standing upon the valves of the tube. Tips roundish; fixed to the thread side-ways.

POINT. Seedbud egg shaped, sharp. Shaft thread-shaped; as long as the blossom. Summit with three clefts; rolled back.

S. VESS. Capsule covered. Egg shaped, but with three angles; three cells and three valves.

SEEDS. Several; irregular; rather sharp.

Common
Cæruleum

JACOBSLADDER. With winged leaves; upright flowers; and the cup longer than the tube of the blossom—*Blossoms blue, or white. Little leaves betwixt egg and spear-shaped; eleven pair or more on each leaf.*

Valeriana cærulea. Baub. pin. 164.

Valeriana græca. Gerard. 1076. Park. 122.

Polemonium vulgare cæruleum et album. Ray's Syn. 288.

Greek Valerian. Ladder to Heaven.

About Malham Cove. P. June.

Its beauty hath obtained it a place in our gardens.

Cows, Goats and Sheep it. Horses are not fond of it.

80 R O S E B A Y. 212 Azalea.

EMPAL. Cup with five divisions; sharp; upright: small; coloured; permanent.

BLOSS. One petal; bell-shaped; with five shallow clefts. Segments with the edges bent inwards.

CHIVES. Threads five; thread-shaped; growing on the receptacle; loose. Tips simple.

POINT. Seedbud roundish. Shaft thread-shaped; as long as the blossom: permanent. Summit blunt.

S. VESS. Capsule roundish; with five cells and five valves.

SEEDS. Many; roundish.

Trailing

Procumbens

ROSEBAY. Branches spreading wide, and trailing—*Blossoms purplish flesh colour.*

Chamæcistus serpyllifolia, floribus carneis. Baub. pin. 466.

On mountains in the North. S.

The Rev. Mr. Lightfoot found it near Arnisdale in the Highlands of Scotland. *Pennant's Tour, 1772. p. 345.*

81 PERRYWINKLE. 295 Vinca.

EMPAL. *Cup* with five divisions; upright; sharp; permanent.

BLOSS. One petal; salver-shaped. *Tube* longer than the cup; cylindrical in the lower part, wider above; marked with five lines, and five angles at the mouth. *Border* with five divisions; horizontal. The segments connected with the top of the tube: broadest on the outward edge, and obliquely lopped.

CHIVES. *Threads* five: very short; first bent inwards and then backwards. *Tips* membranaceous; blunt; upright but bowed inwards; with the dust at the margins.

POINT. *Seedbuds* two; roundish; with two roundish bodies lying contiguous to them. *Shaft* common to both seedbuds; cylindrical; as long as the chives. *Summits* two, the lower one round and flat; the upper summit a concave knob.

S. VESS. Two *Bags*; cylindrical; long; tapering; upright; of one valve opening lengthways.

SEEDS. Numerous; oblong; cylindrical: furrowed.

PERRYWINKLE. The stems creeping; leaves betwixt Lesser spear and egg-shaped, flowers on fruit-stalks—*Cups shorter than* Minor *the tube of the blossom.* *Flowering stems upright.* *Leaf-stalks short.* Blossoms blue.

Vinca pervinca minor. Gerard. 894. Ray's Syn. 268.

Vinca pervinca vulgaris. Park. 380.

Clematis daphnoides minor. Bauh. pin. 301.

Near Hampstead. In woods and hedges but rare. Common in our gardens. P. May.

Varieties.

1. Blossoms white.
2. Blossoms double, blue.
3. Blossoms double, white.
4. Blossoms double, purple.
5. Leaves with yellow stripes; blossoms blue, or white; single or double.
6. Leaves with white stripes; blossoms blue, or white; single or double.

PERRY.

Greater
Major

PERRYWINKLE. The stems nearly upright. Leaves egg-shaped; flowers on fruit-stalks—Cup *as long as the tube of the blossom.* Leaf-stalks long. Blossoms blue; with a blush of purple.

Clematis daphnoides major. *Eaub. pin.* 302. *Ray's Syn.* 268.

Clematis daphnoides latifolia, seu *vinca pervinca major.* *Park.* 380.

Clematis daphnoides, seu *pervinca major.* *Gerard.* 894.

In woods and hedges. Not uncommon in gardens. P. May.

It is bitter and slightly astringent.

82 NIGHTSHADE. 251 Solanum.

EMPAL. Cup of one leaf; permanent: with five shallow clefts; sharp; upright.

BLOSS. One petal; wheel-shaped. Tube very short. Border large; plaited; with five shallow clefts; flat, but turned backwards.

CHIVES. Threads five; awl-shaped; small. Tips oblong; approaching so as to touch; with two open pores at the end.

POINT. Seedbud roundish. Shaft simple, longer than the chives. Summit blunt.

S. VESS. Berry roundish, glossy; with a hollow dot at the end; and two cells. Receptacle convex on both sides: fleshy.

SEEDS. Several, roundish, dispersed among the pulp.

Woody
Dulcamara

NIGHTSHADE. The fruit bearing stems without prickles; zigzag. The upper leaves halberd-shaped; the flowers in tufted bunches—*Its blue blossoms are sometimes changed to flesh colour, or white.* Berry red.

Solanum lignosum seu *dulcamara.* *Park.* 350. *Ray's Syn.* 265.

Solanum scandens, seu *dulcamara.* *Eaub. pin.* 167.

Amara dulcis. *Gerard.* 350.

Bitter-sweet.

In moist brakes and hedges. P. June. July.

Varieties.

1. Blossoms white.
2. Leaves variagated with white.
3. Leaves striped with yellow.

And Mr. Ray says it hath a peculiar habit when it grows near the sea.

Boerhaave says it is a medicine far superior to China and Sarsaparilla as a sweetner and restorative. Linnæus says an infusion of the young twigs is an admirable medicine in acute Rheumatisms, Inflammations, Fevers and Suppression of the Lochia. Dr. Hill says he has found it very efficacious in the Asthma.—Sheep and Goats eat it. Horses, Cows and Swine refuse it.

NIGHT-

NIGHTSHADE. The stem herbaceous; without prickles; Garden leaves egg shaped, toothed and angular. Flowers in bunches; Nigrum nodding. — *Elofsons white. Ferries black.*

Solanum vulgare. Park. 346. Ray's Syn. 264.

Solanum officinarum. Raub. pin. 166.

Solanum horrense. Gerard. 339.

Common Nightshade.

Amongst rubbish. A. June. July.

From one to three grains of the leaves infused in boiling water, and taken at bed-time, occasions a copious perspiration; increases the secretion by the kidneys, and generally purges more or less the following day. These properties, judiciously applied, render it capable of doing essential service in several diseases, as may be seen in Mr. Gattaker's Treatise on the Solanum. But its effects on the Nervous System are so uncertain, and sometimes so considerable, that it must be ever administered with the greatest caution. The leaves externally applied abate inflammation, and assuage pain. The flowers smell like musk. — Horses, Cows, Goats, Sheep and Swine refuse it.

83 D W A L E. 249 Atropa.

EMPAL. *Cup* one leaf: permanent: with five divisions; hunched. *Segments* sharp.

BLOSS. One petal; bell-shaped. *Tube* very short. *Border* distended: egg-shaped; longer than the cup. *Mouth* small; with five clefts; open. *Segments* nearly equal.

CHIVES. *Threads* five; awl-shaped; springing from the base of the blossom, and as long as the blossom; approaching at the base but bowed outwards and diverging towards the top. *Tips* rather thick; rising.

POINT. *Seedbud* half egg-shaped. *Shaft* thread-shaped; inclining; as long as the chives. *Summit* a knob; transversely oblong: rising.

S. VESS. *Berry* of two cells; globular; sitting upon the cup, which enlarges. *Receptacle* fleshy; kidney-shaped; convex on both sides.

SEEDS. Numerous, kidney-shaped.

DWALE.

Deadly
Belladonna

DWALE. The stem herbaceous; the leaves egg-shaped; entire—*Hairy, soft.* Blossoms *dark purple.* Fruit *first red, afterwards black.*

Belladonna. *Ray's Syn.* 265.

Solanum lethale. *Park.* 346. *Gerard.* 340.

Solanum melanocerasus. *Bauh. pin.* 166.

Deadly Nightshade.

In woods, hedges, amongst lime-stone and rubbish. P. June. July.

The whole plant is poisonous; and children allured by the beautiful appearance of the berries, have too often experienced their fatal effects. Buchanan, the Scotch Historian, gives an account of the destruction of the army of Sweno, when he invaded Scotland, by the juice of these berries being mixed with the drink which the Scots, by their truce, engaged to supply them with. The Danes became so intoxicated, that the Scots fell upon them in their sleep, and killed the greatest part of them; so that there were scarcely men enough left to carry off their king. Whatever credit is due to this story, there is no doubt but those who eat the berries are attacked with Stupor or Delirium, and become variously convulsed, and that death is the certain consequence, if not prevented by timely and plentiful vomiting, so as to evacuate the poison. Mr. Ray says, that tumours of the breasts, even of the cancerous kind, are resolved by a topical application of the fresh leaves. There is no doubt but their external application may be productive of good effects in several cases, but the following story related by the same author, shews us that their application is dangerous when the skin is broken.

A lady of quality who had a small ulcer a little below one of her eyes, which was supposed to be of a cancerous nature, put a small bit of the green leaf of this plant upon it. In the morning the Uvea in that eye was so affected that the pupil would not contract, even in the brightest light; whilst the other eye retained its usual powers. The leaf being removed, the eye was gradually restored to its former state. This could not be an accidental effect, for it was repeated three separate times, and the same circumstances attended each application. *Ray's Hist. Plant.* 680. In the *Philos. Trans.* vol. 50. p. 77, there is a case of a woman cured of a Cancer in her breast by taking a tea-cup full of an infusion of the dried leaves every morning. The complaint became worse at first, but afterwards the symptoms abated, and in six months she was perfectly well. The infusion was made by pouring ten tea-cups of water upon twenty grains of the dried leaves, letting it stand all night in a warm place. The relation is very well attested. It hath since been tried in our hospitals, with the effect of mitigating the symptoms, but hardly ever perfecting a cure. Mr. Gattaker gives the preference to the Garden Nightshade in these cases, as he found

found that to increase the secretions, and produce similar good effects, without affecting the nervous system so disagreeably as the deadly Dwaile generally does.—*See his Treatise on the Nightshade.*

84 MARSHWORT. 222 Samolus.

EMPAL. Cup with five divisions; superior; blunt at the base: permanent. Segments upright.

BLOSS. One petal; salver-shaped. Tube, open; very short; but as long as the cup. Border flat; with five blunt divisions. Valves very short; approaching; fixed to the bottom of the clefts in the border.

CHIVES. Threads five: short; one betwixt each segment of the blossom. Tips approaching; covered.

POINT. Seedbud beneath. Shaft thread-shaped; as long as the chives. Summit a knob.

S VESS. Capsule egg-shaped; of one cell, and five valves opening half way down; bound round by the cup.

SEEDS. Many; egg-shaped; small. Receptacle large; globular.

MARSHWORT. As there is only one species known Linnæus Pimpernel gives no description of it—*The Leaves oblong egg-shaped; very Valerandi entire. Blossoms white.*

Samolus valerandi. Ray's Syn. 283.

Anagallis aquatica, rotundo folio non crenato. Eaub. pin. 252.

Anagallis aquatica rotundifolia. Gerard. 620.

Anagallis aquatica 3. lob. folio subrotundo non crenato.

Pa k. 1237.

Round leaved Water Pimpernel.

In marshes and moist meadows. P. June.

Cows, Goats and Sheep eat it. Horses refuse it.

85 RAMPION. 220 Phyteuma.

EMPAL. Cup one leaf, with five divisions; sharp, not quite upright; superior.

BLOSS. One petal; starry; expanding; with five divisions. Segments strap-shaped; sharp; bent back.

CHIVES. Threads five; shorter than the blossom. Tips oblong.

POINT. Seedbud beneath. Shaft thread-shaped; as long as the blossom, bent backwards. Summit with three divisions; oblong; rolled back.

S VESS. Capsule roundish; cells three.

SEEDS. Several; small; roundish.

RAMPION.

Roundheaded
Orbicularis

RAMPION with flowers in roundish heads and ferrated leaves.
Root leaves heart-shaped—*Blossoms purple; or blueish.*

Rapunculus corniculatus montanus. *Gera d.* 455. *Ray's Syn.* 278.

Rapunculus alopecuroides orbiculatus. *Park.* 648.

Rapunculus folio oblongo, spica orbiculari. *Baub. pin.* 92.

Horned Rampions, with a round head or spike of flowers.

In dry pastures. On the Downs in Suffex. P. July. August.

86 BELFLOWER. 218 Campanula.

EMPAL. *Cup* with five divisions; sharp; not quite upright; superior.

BLOSS. One petal; bell-shaped; close at the base; with five clefts; shrivelling. *Segments* broad; sharp, open. *Honey-cup* in the bottom of the blossom, composed of five sharp valves; approaching and covering the receptacle.

CHIVES. *Threads* five; hair-like; very short; growing upon the ends of the honey-cup valves. *Tips* compressed; longer than the threads.

POINT. *Seedbud* beneath; angular. *Shaft* thread-shaped; longer than the chives. *Summit* thick; oblong; with three divisions which are rolled backwards.

S.VESS. *Capsule* somewhat round; angular; of three or five cells, and letting out the seed at as many lateral holes.

SEEDS. Numerous; small. *Receptacle* resembling a pillar.

OBS. *The figure of the seed-vessel is different in different species.*

* *Leave somewhat smooth and narrow.*

Mountain
Uniflora

BELFLOWER. The stem, solitary; upright, supporting only one flower. *Cup* as large as the blossom—

On mountains in the North, and in Wales. P. July. August.

Round-leaved
Rotundifolia

BELFLOWER. The root leaves kidney-shaped; stem leaves strap-shaped—*Blossoms blue; or purple; sometimes white.*

Campanula rotundifolia. *Gerard.* 452. *Ray's Syn.* 277.

Campanula minor sylvestris rotundifolia. *Park.* 651.

Campanula minor rotundifolia vulgaris. *Baub. pin.* 93.

Lesser round leaved Bellflower.

On heaths and barren pastures. P. August. October.

The juice of the petals stains blue, but with the addition of alum, green.

Cows, Horses, Goats and Sheep eat it. Swine refuse it.

BELL-

BELLFLOWER. The leaves stiff and straight. Root-leaves Field betwixt spear and egg-shaped; panicle expanding—*At the base Patula of each segment of the cup there is a little livid tooth.* Blossom blue.

In woods, hedges and cornfields. P. July. August.

BELLFLOWER. The leaves waved at the edges; root-Rampion leaves betwixt spear-shaped and oval. Panicle compact—*Stem Rapunculus angular, rough.* Fruit-stalks generally growing by threes, and the middle one the longest. Blossoms blue, or whitish.

Rapunculus esculentus. *Baub. pin. 92. Ray's Syn. 276.*

Rapunculus esculentus vulgaris. *Park. 648.*

Rapuntium parvum. *Gerard. 453.*

In cornfields, near Croyden in Surry; not common. P. August.

The roots are eaten raw in fallads, or boiled like sparagus. In gardens they are blanched.

* * *Leaves rough, and rather broad.*

BELLFLOWER. The leaves betwixt egg and spear-shaped; Broad-leaved stem undivided; cylindrical. Flowers solitary; fruit-stalks Latifolia nodding—*Cups smooth.* Leaves serrated. Blossoms blue; sometimes pale red; or white; or ash-coloured.

Campanula maxima foliis latissimis. *Baub. pin. 94. Ray's Syn. 276.*

Trachelium majus Belgarum. *Park. 643. five giganteum. Gerard. 448.*

Giant Throatwort.

In high grounds. P. July. August.

The beauty of its flowers frequently procures it a place in our gardens. The whole plant abounds with a milky liquor.—Horses, Sheep and Goats eat it.

BELLFLOWER. The stem angular; lower leaves on leaf-Canterbury stalks; cups fringed; fruit-stalks divided into three parts. Trachelium—*Leaves betwixt egg and heart-shaped; toothed, and rough.* Blossoms blue; sometimes pale red, or white.

Campanula vulgator foliis urticæ, vel major et asperior. *Ray's Syn. 276. Baub. pin. 94.*

Trachelium majus. *Gerard. 448. flore purpureo. Park. 644.*

Great Throatwort or Canterbury Bells.

In woods and hedges rare. In gardens frequent. P. July. August.

In gardens the blossoms frequently grow double, or triple. The whole plant contains a dirty yellow juice.—Cows eat it. Horses and Goats refuse it.

Throatwort
Glomerata

BELLFLOWER. The stem simple, angular. Flowers sitting, and forming a head at the end of the stem—*Leaves oblong egg shaped; sitting; rather blunt; the lower leaves on leaf-stalks. Blossoms blue; reddish; or white.*

Campanula pratensis flore conglomerato. Baub. pin. 94. Ray's Syn. 277.

Trachelium minus. Park. 644. Gerard. 449.

Lesser Throatwort, or Canterbury Bells.

On chalk hills. P. July.

*** *Capsules covered by the reflected segments of the cup.*

Venus
Hybrida

BELLFLOWER. The stem with straight and stiff branches at the base. Leaves scolloped and oblong. Cups incorporated and longer than the blossoms. Capsule prism-shaped—*Blossoms purple; deeply divided.*

Campanula arvensis erecta, vel speculum veneris minus. Park. 1331. Gerard. 439. Ray's Syn. 278.

Lesser Venus looking Glass. Coddled Corn Violet.

In cornfields, but not common. A. June. July.

Ivy-leaved
Hederacea

BELLFLOWER. The leaves on leaf-stalks; smooth; heart-shaped; with five lobes. Stem flexible—*Blossoms blue. Is not this plant derived from the seedbud of one of the Bellflowers fertilized by the dust of the Ivy-leaved Speedwell?*

Campanula cymbalariae foliis. Gerard. 452. Park. 652. Ray's Syn. 277.

Campanula cymbalariae foliis vel folio hederaceo. Baub. pin. 93.

In moist shady places. P. May. August.

The Sword-grass Moth, *Phalæna exsoleta*, feeds upon the different species of Bellflower.

87 HONEYSUCKLE. 233 Lonicera.

EMPAL. *Cup* superior; with five divisions, small.

BLOSS. One petal; tubular. *Tube* oblong; hunched. Border with five divisions. *Segments* rolled backwards, one segment more deeply separated than the others.

CHIVES. *Threads* five; awl-shaped; nearly as long as the blossom. *Tips* oblong.

POINT. *Seedbud* beneath: roundish. *Shaft* thread-shaped; as long as the blossom. *Summit* a blunt knob.

S.VESS. Berry with two cells, and crowned with the cup at the top.

SEEDS. Nearly round, compressed.

OBS. *The Woodbine Honeysuckle hath the segments of the blossom cut nearly to an equal depth and the berries distinct. The upright Honeysuckle hath the segments of the blossom cut nearly to an equal depth, and two berries sitting upon the same base.*

HONEYSUCKLE with flowers in egg-shaped, terminating, Woodbine tiled knobs. Leaves distinct—*Blossoms red on the outside; yellowish within. Berries red.* Periclymenum

Caprifolium Germanicum. *Ray's Syn.* 458.

Periclymenum. *Gerard.* 891.

Peryclymenum, five caprifolium vulgare. *Park.* 1460.

Periclymenum non perfoliatum Germanicum. *Baub. pin.* 302.

In hedges. S. May—July.

The varieties are

1. Blossoms white.
2. Leaves with yellow stripes.
3. Leaves indented like those of oak.
4. Leaves indented and variegated.

The beauty and fragrance of its flowers make it a welcome guest in our gardens, hedges and arbours. Cows, Goats and Sheep eat it. Horses refuse it.

Upright
Xylosteum

HONEYSUCKLE with fruit-stalks supporting two flowers; berries distinct, leaves very entire; downy—*Blossoms white. Berries red.*

Chamaecerasus dumetorum, fructu gemino rubro. Eaub. pin. 451.

Upright Alpine Honeysuckle.

Under the Roman Wall, on the west side of Shewing Sheels in Northumberland. *Wallis. p. 149. S. July.*

In very dry soils it makes good hedges—The clear parts betwixt the joints of the shoots are used in Sweden as tubes for tobacco pipes—The wood is very hard, and makes excellent teeth for rakes. Goats and Sheep eat it. Cows and Horses refuse it.

The insects that have been observed to feed upon the Honeysuckles are the Privet Hawk Moth, *Sphinx Ligustri*, the brown feathered Moth, *Phalæna didactyla*, the Small Bee Moth, *Sphinx tipuliformis*, and the many feathered Moth, *Phalæna Hexadactyla*.

88 BUCKTHORN. 265 Rhamnus.

EMPAL. *Cup* none; except you call the blossom the cup.

BLOSS. One petal; funnel-shaped; closed at the base.

Rough outwardly, but coloured within. *Tube* cylindrical; turban-shaped. *Border* expanding; divided; sharp. Five small *Scales*, one at the base of each division of the blossom, approaching inwards.

CHIVES. *Threads* as many as there are segments in the blossom; awl-shaped; growing upon the blossom under the scale. *Tips* small.

POINT. *Seedbud* roundish. *Shaft* thread-shaped; as long as the chives. *Summit* blunt; divided into fewer segments than the blossom.

S.VESS. *Berry* roundish, naked, divided into fewer cells than the blossom hath segments.

SEEDS. Solitary; roundish; hunched on one side, compressed on the other.

OBS. In the Alder Buckthorn, the Summit is notched; the Berry hath four seeds, and the blossom five clefts. In the Purging Buckthorn the Summit hath four clefts, the Berry hath four seeds, the Blossom four clefts, and the chives and pointal are upon different plants.

BUCKTHORN. The thorns terminating. The leaves egg-shaped; the stem upright. Blossoms with four segments; the chives four. The chives and pointal upon distinct plants.—

Blossoms pale green. Berries black.

Rhamnus catharticus. Baub. pin. 478. Ray's Syn. 466.

Rhamnus foliatus. Gerard. 1337. Sive spina insectoria vulgaris. Park. 243.

In woods and hedges. S. April. May.

A purgative syrup is prepared from the berries and kept in the shops. about an ounce of it is a moderate dose; but it generally occasions so much sickness and griping that it is falling into disuse---the flesh of birds that feed upon the berries is said to be purgative---the juice of the unripe berries is the colour of saffron, and is used for staining maps or paper. These are sold under the name of French Berries---The juice of the ripe berries mixed with alum, is the sap green of the painters; but if they are gathered late in the autumn the juice is purple---the bark affords a beautiful yellow dye. Goats, Sheep and Horses eat it. Cows refuse it.

BUCKTHORN without thorns. Leaves very entire. Alder Chives and pointals in the same flower---*The inner bark is yellow; the outer sea-green, and the middle bark red as blood.* Frangula

Frangula, seu alnus nigra baccifera. Park. 240. Ray's Syn. 465.

Alnus nigra baccifera. Baub. pin. 428.

Alnus nigra five frangula. Gerard. 1469.

Black berry bearing alder.

Woods and wet hedges. S. April. May.

From a quarter to half an ounce of the inner bark, boiled in small beer, is a sharp purge. In dropsies, or constipations of the bowels of cattle, it is a very certain purgative---The berries gathered before they are ripe, dye wool green. The bark dyes yellow. Charcoal prepared from the wood is preferred by the makers of gunpowder---The flowers are particularly grateful to Bees. Goats devour the leaves voraciously, and Sheep will eat them.

The Brimstone Butter Fly, *Papilio Rhamni*, and the Blue Argus, *Papilio Argus*, live upon both the species of Buckthorn.

89 SPINDLE. 271 Evonymus.

EMPAL. *Cup* one leaf, with five divisions; flat. *Segments* roundish; concave.

BLOSS. *Petals* five; egg-shaped; flat; expanding; longer than the cup.

CHIVES. *Threads* five; awl-shaped; upright; shorter than the blossom; standing upon the seedbud. *Tips* double.

POINT. *Seedbud* tapering to a point. *Shaft* short; simple. *Summit* blunt.

S.VESS. *Capsule* succulent; coloured; with five sides; five angles; five cells and five valves.

SEED. Solitary; egg-shaped; inclosed in a seedcoat, not much unlike a berry.

OBS. *In some species and in some individual flowers there are only four petals; four chives, &c.*

Gatteridge
Europæus

SPINDLE. Blossoms for the most part with only four petals — *greenish white*. Fruit *angular, purplish; sometimes white*.

Evonymus vulgaris. Park. 241. Ray's Syn. 468.

Evonymus vulgaris granis rubentibus. Baub. pin. 428.

Evonymus Theophrasti. Gerard. 1468.

Spindle-tree. Prickwood. Gatteridge-tree. Louse Berry.

In woods and hedges. S. April — May.

The berries vomit and purge violently. They are fatal to Sheep. In powder and sprinkled upon the hair they destroy lice---If the wood is cut when the plant is in blossom, it is tough and not easily broken. and in that state is used by watch-makers for cleaning watches, and to make skewers and toothpickers. Cows, Goats and Sheep eat it. Horses refuse it.

The small Ermine Moth, *Phalæna Evonymella*. lives upon this shrub.

90 CURRANT. 281 Ribes.

EMPAL. *Cup* of one permanent leaf, with five shallow clefts; distended. *Segments* oblong; concave; coloured; reflected.

BLOSS. *Petals* five; small; blunt; upright; growing to the rim of the cup.

CHIVES. *Threads* five; awl-shaped; upright; standing on the cup. *Tips* fixed side-ways to the threads; compressed; opening at the edges.

POINT. *Seedbud* beneath: roundish. *Shaft* cloven. *Summits* blunt.

S.VESS. *Berry*, globular of one cell; dimpled. *Receptacles* two; longitudinal, lateral, opposite.

SEEDS. Several; roundish; somewhat compressed.

CURRANT without prickles; flowers rather flat; in smooth Red pendant bunches—*Blossoms* greenish white. Berries red, or white. Rubrum

Ribes vulgaris fructu rubro. Gerard. 1593. Ray's Syn. 456.

Ribes fructu rubro. Park. 1561.

Grossularia sylvestris rubra. Baub. pin. 455.

Currants.

In woods in the northern counties. Very common in gardens.

S. May.

Variety.

1. *Ribes vulgaris fructu dulci.* Ray's Syn. 456.

Grossularia vulgaris fructu dulci. Baub. pin. 455.

Sweet Currants.

In woods in Yorkshire and Leicestershire.

2. *Ribes fructu parvo.* Ray's Syn. 456.

Small Currants.

In Wimbleton Park, Surry; and many places in Lancashire.

3. Gooseberry leaved Currant.

4. Variegated leaves.

The fruit is universally acceptable, either as nature presents it, or made into jelly. The juice is a most agreeable acid in punch. The white fruit is sweeter than the red. If an equal weight of picked Currants and pure sugar is put over the fire, the liquor that separates spontaneously is a most agreeable jelly. Cows, Goats and Sheep eat the leaves. Horses are not fond of them.

This plant is very apt to be infested by the Currant Louse, *Aphis Ribes*, and then the green leaves become red, pitted and hunched.

Mountain
Alpinum

CURRENT without prickles; bunches upright; floral leaves longer than the flowers—

Ribes alpinus dulcis. Ray's Syn. 456.

Sweet Mountain Currants.

In dry hedges in Yorkshire. S. May.

The fruit hath a flat sweetish taste, and is only agreeable to children. The wood being hard and tough makes good teeth for rakes. Cows, Goats, Sheep and Horses eat it.

Black
Nigrum

CURRENT without prickles; flowers oblong, in hairy bunches—*Buds glandular*; Floral Leaves woolly, and as long as the fruit-stalks. Leaf-stalks a little woolly and glandular. Leaves glandular. Glands very small; yellow.

Ribes nigrum vulgo dictum folio olente. Ray's Syn. 456.

Ribes fructu nigro. Park. 1562. Gerard. 1593.

Grossularia non spinosa fructu nigro. Bauh. pin. 455.

Squinnancy Berries.

Wet hedges and banks of rivers. S. May.

The berries have a very peculiar flavour that many people dislike; but their juice is frequently boiled down into an extract, with the addition of a small proportion of sugar; in this state it is called Rob; and is much used in sore throats, but chiefly in those of the inflammatory kind. Some people put them into brandy, for the same purpose that other people use black cherries. The tender leaves tinge common spirits, so as to resemble brandy. An infusion of the young roots is useful in fevers of the eruptive kind; and in the dysenteric fevers of cattle. Goats and Horses eat the leaves.

All the species are eaten by the Magpye or Currant Moth, *Phalæna grossularia*.

91 I V Y. 283 Hedera.

EMPAL. *Fence* of the simple rundle very small; with many teeth. *Cup* very small, with five teeth; binding round the seedbud.

BLOSS. *Petals* five; oblong; expanding; bent inwards at the points.

CHIVES. *Threads* five; awl-shaped; upright; as long as the blossom. *Tips* fixed side-ways to the threads; forked at the base.

POINT. *Seedbud* turban-shaped; bound round by the *Cup*. *Shaft* simple; very short. *Summit* simple.

S. VESS. *Berry* globular; with one cell.

SEEDS. Five; large; hunched on one side; angular on the other.

IVY with some leaves egg-shaped; and others divided into Common lobes—*Glossy*. Blossoms *greenish white*. Berries *black*. Helix

Hedera arborea. *Bauh. pin.* 305.

Hedera arborea five scandens et corymbosa communis. *Park* 678.

Hedera helix. *Gerard.* 858.

In woods and hedges. S. October.

1. The leaves are sometimes variegated with white or yellow.

The roots are used by Leather-cutters to whet their knives upon.—Its ever-green leaves adorn our walls and cover the naked trunks of trees.—Apricots and Peaches covered with Ivy during the month of February, have been observed to bear fruit plentifully. *Philos. Trans.* No. 475.—The leaves have a nauseous taste. Haller says they are given in Germany as a specific in the Atrophy of children. Common people apply them to Issues. The berries have a little acidity. In warm climates a resinous juice exudes from the stalks.—Horses and Sheep eat it. Goats and Cows refuse it.

FIVE CHIVES.

92 KNOTGRASS. 290 Illecebrum.

EMPAL. *Cup* of five leaves and five angles. The *Leaves* coloured; tapering; distant at the points: permanent.

BLOSS. None.

CHIVES. *Threads* five; hair-like; within the cup. *Tips* simple.

POINT. *Seedbud* egg-shaped; sharp; ending in a short cloven *Shaft*. *Summit* simple; blunt.

S.VESS. *Capsule* roundish; tapering at each end; with five valves, and one cell: covered by the cup.

SEED. Single; very large; somewhat round but sharp at each end.

Whorled

Verticillatum

KNOTGRASS with flowers in naked whorls, and trailing stems—*Blossoms* white.

Polygonum serpyllifolium verticillatum. Ray's Syn. 160.

Polygala repens. Park. 1333.

Polygala repens nivea. Baub. pin. 215.

Verticillate Knotgrafs.

In wet pastures in Cornwall. P. July.

93 SALTWORT. 291 Glaux.

EMPAL. None; unless you call the blossom the cup.

BLOSS. Petal single; upright; bell-shaped; permanent: with five blunt *Segments*, rolled back.

CHIVES. *Threads* five; awl-shaped; upright; as long as the blossom. *Tips* roundish.

POINT. *Seedbud* egg-shaped. *Shaft* thread-shaped: as long as the chives. *Summit* a knob.

S.VESS. *Capsule* globular; tapering; of one cell and five valves.

SEEDS. Five; roundish. *Receptacle* large; globular; with hollows where the seeds lie.

SALTWORT.

SALTWORT. As there is only one known species **Linnæus** Sea gives no description of it.—*The Stems trailing; jointed. Leaves Maritima fitting. Blossoms at the base of the leaves; purple; sometimes greenish white; or white; or striped.*

Glaux maritima. Baub pin. 215 Ray's Syn. 285.

Glaux maritima minor. Park. 1283.

Glaux exigua maritima. Gerard. 562.

Sea Milkwort. Black Saltwort.

On the sea coast. P. July.

Cows eat it.

94 FLUELLIN. 292 Thesium.

EMPAL. *Cup* one leaf; permanent; turban-shaped; with five shallow clefts. *Segments* half spear-shaped; upright; blunt.

BLOSS. None; unless you call the *Cup* a blossom, from its being coloured on the inside.

CHIVES. *Threads* five; awl-shaped; inserted at the base of the segments of the cup; shorter than the cup. *Tips* roundish.

POINT. *Seedbud* beneath; at the bottom of the cup. *Shaft* thread-shaped; as long as the chives. *Summit* rather thick and blunt.

S.VESS. None. The *Cup* contains the seed in its bottom without opening.

SEED. Single; somewhat round; covered by the closing cup.

FLUELLIN. The panicle leafy; leaves strap-shaped.—*Blōf-* Flax-leaved
soms white. Linophyllon

Linaria adulterina. Gerard. 555. Ray's Syn. 202.

Linaria montana flosculis albicantibus. Baub pin. 213.

Pseudo linaria montana alba. Park. 459.

Bastard Fluellin.

In high pastures. P. June.—July,

95 FELWORT.

Order II. Two Pointals.

95 FELWORT. 321 Swertia.

EMPAL. *Cup* with five divisions; flat; permanent. *Segments* spear-shaped.

BLOSS. *Petal* single. *Tube* none. *Border* flat; with five divisions. *Segments* spear shaped, larger than the cup; connected by the claws. *Honey-cups* five; each of them like two hollow dots in the inner side of the base of each segment; encompassed with small upright bristles.

CHIVES. *Threads* five; awl-shaped, not quite upright; shorter than the blossom. *Tips* fixed side-ways to the threads.

POINT. *Seedbud* oblong; egg-shaped. *Shaft* none. *Summits* two; simple.

S. VESS. *Capsule* cylindrical; tapering at each end; with one cell, and two valves.

SEEDS. Numerous; small.

Marsh
Perennis

FELWORT. The blossoms with five segments: the root leaves oval.—

Gentiana palustris latifolia. *Baub. pin.* 188.

Gentiana pennei minor. *Gerard.* 433.

Marsh Gentian.

In Wales. P. August.

96 GENTIAN. 322 Gentiana.

EMPAL. Cup with five divisions; sharp; permanent. Segments oblong.

BLOSS. Petal single; tubular in the lower part; tube close. The upper part with five clefts; flat, shrivelling; variously shaped.

CHIVES. Threads five; awl-shaped; shorter than the blossom. Tips simple.

POINT. Seedbud oblong; cylindrical; as long as the chives. Shafts none. Summits two; egg-shaped.

S. VESS. Capsule oblong; cylindrical; tapering; slightly cloven at the end: of one cell and two valves.

SEEDS. Numerous; small. Receptacles two, each growing length-ways to a valve.

OBS. The figure of the fruit is constant; but the flowers vary in different species both as to the number and shape of the parts. In one species the neck of the blossom is open, in another it is closed with soft hairs. In some the segments of the blossom are fringed; in others the border is bell-shaped, upright and plaited. Some have a starry appearance, with small segments betwixt the larger; others are funnel-shaped, &c.

GENTIAN. The blossoms with five clefts; bell-shaped; Calathian opposite; on fruit-stalks. Leaves strap shaped—Blossoms blue. Pneumonanthe
Gentiana palustris angustifolia. Baub. pin. 183. Ray's Syn.

274.

Gentiana autumnalis pneumonanthe dicta. Park. 406.

Pneumonanthe. Gerard. 438.

Calathian Violet.

In moist pastures. P. August.

GENTIAN. The blossoms with five clefts; funnel-shaped. Centaury
Stem forked; pointal simple—Blossoms pale red; sometimes white. Centaurium
Centaurium minus. Baub. pin. 278. Ray's Syn. 286.

Centaurium minus vulgare. Park. 272.

Centaurium parvum. Gerard. 547.

Lesser Centory.

In dry barren pastures. A. June—August.

This plant is extremely bitter. It is the basis of the famous Portland Powder, which cures the Gout, when taken in a large quantity, and a long time together; but it brings on Schirrosity of the Liver, Palsy and Apoplexy. A tincture of the leaves and the upper part of the root is a good medicine in Weak Stomachs and Cachectic Habits. A decoction of the whole plant destroys Lice, and cures the Itch.—Cows are not fond of it.

GENTIAN.

Autumnal
Amarella

GENTIAN. The blossoms with five clefts ; salver-shaped ; bearded at the mouth.—*Blossoms blue.*

Gentianella pratensis flore lanuginoso. Baub. pin. 188. Ray's Syn. 275.

Gentianella fugax autumnalis elatior, centaurii minoris foliis. Ray's Syn. 275.

Gentianella fugax minor. Gerard. 437.

Fellwort.

Dry pastures. A. July. August.

Sheep eat it. Horses refuse it.

Dwarf
Campestris

GENTIAN. The blossom with four clefts ; mouth bearded ; —*Stem upright ; Blossom blue ; terminating ; woolly within. Root leaves spear-shaped ; lying on the ground. Chives four.*

Gentianella fugax verna seu præcox. Ray's Syn. 275.

Gentianella alpina verna minor. Baub. pin. 188.

Vernal Dwarf Gentian.

Mountainous pastures. A. July.

Poor people sometimes use it instead of Hops.

Marsh
Filiformis

GENTIAN. The blossoms with four clefts without any beard. Stem thread-shaped ; forked.—*Blossoms yellow, funnel-shaped ; on long fruit-stalks. Chives four.*

Centaureum palustre luteum minimum. Ray's Syn. 286.

Marsh Centory.

In marshes in Cornwall. A. July.

97 KELPWORT. 311 Salsola.

EMPAL. Cup of five leaves ; egg-shaped ; concave ; permanent.

BLOSS. None. Unless you call the cup the blossom.

CHIVES. Threads five ; very short ; standing upon the leaves of the cup.

POINT. Sedbud globular. Shaft short ; with two or three divisions. Summits bent back.

S. VESS. Capsule egg-shaped ; of one cell ; lapped up in the cup.

SEEDS. Single ; very large ; spiral like a snail shell.

KELP-

KELPWORT. Herbaceous; drooping. Leaves rough; awl- Prickly shaped; ending in a thorn. Cups at the base of the leaves; Kali with leafy borders—*Blossoms greenish*.

Kali spinosum cochleatum. *Bauh. pin.* 289. *Ray's Syn.* 159.

Tragus seu tragus matthioli. *Park.* 1034.

Tragon Matthioli, seu potius tragus improbus Matthioli. *Gerard* 959.

Prickly Glass-wort.

Cows, Horses, Goats, Sheep and Swine refuse it.

KELPWORT. An upright shrub; with thread-shaped blunt Upright leaves.— Fruticosa

Blitum fruticosum maritimum, vermicularis frutex dictum. *Ray's Syn.* 156.

Sedum minus fruticosum. *Bauh. pin.* 284.

Vermicularis frutex minor. *Gerard.* 523.

Vermicularis fruticosa altera. *Park.* 731.

Chenopodium fruticosum. *Hudson.* 93.

Shrub Stone-crop or Glass-wort.

On the sea-shore. S. August.

98 BLITE. 309 Chenopodium.

EMPAL. Cup five leaves; concave; permanent. Leaves egg-shaped; concave; membranaceous at the edges.

BLOSS. None.

CHIVES. Threads five; awl-shaped; as long as the leaves of the cup and standing opposite to them. Tips roundish; double.

POINT. Seedbud round and flat. Shaft short; divided. Summit blunt.

S. VESS. None. The Cup closes upon the seed; hath five sides; five compressed angles, and falls off when the seeds are ripe.

SEED. Single; round; depressed.

OES. In some species the Shaft hath three clefts.

* *Leaves angular.*

Mercury BLITE. The leaves triangular; nearly arrow-shaped; very
 Bonus Henricus entire. Flowers in compound spikes, not leafy; growing at
 the base of the leaves.—*Little spikes alternate; sitting. Flowers
 congregated; sitting. Leaves waved at the edge; the ribs of the
 leaves sprinkled with a soapy mealiness. Blossoms greenish white.*

Blitum perenne, bonus henricus dictum. Ray's Syn. 156.

Bonus henricus. Gerard. 329.

Lapathum unctuosum. Park. 1225.

Lapathum Sylvestre latifolium; seu unctuosum folio triangulo.
 Baub. pin. 115.

Common English Mercury. All-good.

Among rubbish: on road-sides. P. August.

The young shoots peeled and boiled, may be eaten as spa-
 ragus, which they resemble in flavour. They are gently laxa-
 tive. The leaves are often boiled in broth. The roots are given
 to Sheep that have a Cough.—Goats and Sheep are not fond of
 it. Cows, Horses and Swine refuse it.

Upright
 Urbicum

BLITE. The leaves triangular; a little toothed: flowers
 crowded in very stiff, straight, and long bunches lying close to
 the stem—*Blossoms pale green.*

Chenopodium erectum, foliis triangularibus dentatis, spicis
 e foliorum alis plurimis, longis, erectis, tenuibus. Ray's Syn.

155. Among rubbish. A. August. Sept.

Goats and Sheep eat it. Horses and Cows refuse it.

Goosefoot
 Rubrum

BLITE. The leaves triangularly heart-shaped; toothed; ra-
 ther blunt. Bunches of flowers upright; compound; some-
 what leafy; shorter than the stem. *Spikes congregated, sitting;
 with little strap-shaped leaves intervening: red when ripe. Leaves
 thick; shining. Stems drooping and pressed down to the ground.*

Blitum pes anserinus, acutiore folio. Ray's Syn. 154.

Atriplex sylvestris latifolia acutiore folio. Baub. pin. 119.

Atriplex sylvestris latifolia altera. Gerard. 328.

Sharp-leaved Goose-foot.

On dung-hills and among rubbish. A. August.

Sowbane
 Murale

BLITE. The leaves egg-shaped; toothed; shining; sharp.
 Bunches of flowers branching; naked—*Stem upright; Fruit in a
 sort of panicle; green or reddish.*

Blitum pes anserinus dictum. Ray's Syn. 154.

Atriplex sylvestris latifolia. Baub. pin. 119.

Pes anserinus. Gerard. 328. Park. 749.

1. There is a variety with trailing stems and indented leaves.

Common Goose-foot, or Sow Bane.

In gardens and amongst rubbish. A. August.

Cows eat it; but it is said to be poisonous to Swine.

BLITE.

BLITE. The leaves triangularly spear-shaped; indented and Autumnal toothed; wrinkled; smooth; uniform. Bunches of flowers terminating—*Stem five or six feet high; very much branched; flowering late in the year. Leaves pale green; resembling those of the following species but broader.* Serotinum

Blitum ficus folio. Ray's Syn. 155.

Late Flowered Blite.

On dung-hills and amongst rubbish. A. August—September.

BLITE. The leaves betwixt triangular and diamond-shaped; Orach gnawed at the edges; entire at the base. Upper leaves oblong; Album bunches of flowers upright—*Little spikes alternate; sitting; crowded. The whole plant is white when fully grown. Seed black.*

Blitum atriplex sylvestre dictum. Ray's Syn. 154.

Atriplex folio sinuato candicante. Baub. pin. 119.

Atriplex sylvestris vulgatio sinuata major. Park. 748.

Atriplex vulgaris. Gerard. 326.

1. There is a variety with a roundish leaf. Ray's Syn. 155.

Common Orache.

Gardens, dung-hills. Amongst rubbish. A. August.

Cows, Goats, and Sheep eat it. Horses refuse it. Swine are extremely fond of it.

BLITE. The leaves diamond-shaped; indented and tooth- Green ed. Flowers in branching and somewhat leafy bunches.—*Stem upright; green; but rather purplish at the angles. Branch Leaves spear-shaped; very entire; with one or two teeth. The Cup of the fruit with five elegantly sharp angles.* Viride

Chenopodium foliis integris racemosum. Ray's Syn. 155.

1. There is a variety with a thicker and blunter leaf. Ray's Syn. 156.

In gardens and cultivated places very common. A. July—August.

Goats, Sheep and Swine eat it.

BLITE. The leaves heart-shaped, but tapering at the an- Maple-leaved gles. Flowers in branching naked bunches.—*Did not this plant originate from the seedbuds of the Green Blite, impregnated by the dust of the White-flowered Thorn-apple?* Hybridum

Chenopodium stramonii folio. Ray's Syn. 154.

Common on dung-hills and amongst rubbish. A. August.

Cows and sheep eat it. Horses, Goats and Swine refuse it.

Oak-leaved
Glaucum

BLITE. The leaves oblong; egg-shaped serpentine at the edges. Flowers in naked, simple, congregated bunches.—
Chenopodium angustifolium laciniatum minus. *Ray's Syn.* 155.
Amongst rubbish. A. August.
Cows and Horses eat it.

* * *Leaves entire.*

Stinking
Vulvaria

BLITE. The leaves very entire; betwixt diamond and egg-shaped. Flowers congregated; at the base of the leaves.
Blitum foetidum vulvaria dictum. *Ray's Syn.* 156.
Atriplex olida. *Gerard.* 327.
Atriplex olida, five sylvestris foetida. *Park.* 749.
Atriplex foetida. *Baub. pin.* 119.
Stinking Orache.
Road-fides, old walls. A. August.
From its rank foetid smell it hath got the reputation of being an Antihysterical.—Cows, Horses, Goats and Sheep eat it. Swine refuse it. The Sword-grass Moth, *Phalæna Exfoleta*, is found upon this species.

All-feed
Polypermum

BLITE. The leaves very entire; egg-shaped; Stem trailing. Flowers in forked naked tufts, at the base of the leaves.
Chenopodium betæ folio. *Ray's Syn.* 157.
Blytum Polypermum. *Baub. pin.* 118. *Park.* 753.
Round Leaved Blite.
Gardens. Dunghills. A.
Cows and Sheep eat it. Goats and Horses refuse it. It is a most grateful food to fish.

Sea
Maritimum

BLITE. The leaves awl-shaped, semi-cylindrical.—*Seeds glossy*.
Blitum Kali minus album dictum. *Ray's Syn.* 156.
Kali minus. *Gerard.* 535. *album*. *Park.* 749.
Kali minus album femine splendente. *Baub. pin.* 289.
White Glass-wort.
Common on the sea-shore. A. August.
This is an excellent pot-herb.—The Spotted Buff-moth, *Phalæna Lubricipeda*, feeds upon most of the species of Blite.

99 B E E T. 310 Beta.

EMPAL. *Cup* of five leaves ; concave ; permanent ; *Leaves* oblong egg-shaped ; blunt.

BLOSS. None.

CHIVES. *Threads* five ; awl-shaped ; as long as the leaves of the cup and standing opposite to them. *Tips* nearly round.

POINT. *Seedbud* in a manner below the receptacle. *Shafts* two ; very short ; upright. *Summits* acute.

S. VESS. *Capsule* in the bottom of the cup ; of one cell ; soon falling off.

SEED. Single ; kidney-shaped ; compressed ; lying in the substance of the base of the cup.

BEET. The flowers collected into little balls. Leaves of the Common cup toothed at the base—*Stem upright ; leaves horizontal.* Root *Vulgaris* red.

Beta rubra vulgaris. *Baub. pin.* 118.

Beta alba ; *Gerard.* 318.

Beta communis, seu viridis. *Ray's Syn.* 157.

In gardens, and on the sea-coast. About Nottingham plentifully. B. August.

The Gardiners produce several varieties by cultivation, viz. the yellow, the green, the red, and the turnip-rooted red.—The root of the red Beet is used as a pickle, and is sometimes eaten boiled. It is also employed to improve the colour of Claret. The white Beet is a pot-herb, but it is now almost banished from our tables, being too insipid, and is never used at all but in conjunction with Onions and other savory vegetables. The juice or powder of the root taken up the nostrils, excites sneezing, and occasions a considerable discharge of mucus.—Mr. Margraff found that a good sugar may be obtained from the juice of the fresh roots by the methods practiced abroad for preparing it from the Sugar-cane.

BEET. With flowers in pairs—*Stems drooping.* This differs Sea from the common Beet in flowering the first year ; in the leaves *Maritima* growing oblique or vertical ; in the leaves of the cup being equal, and not toothed.

Beta sylvestris maritima. *Baub. pin.* 157. *Park.* 750.

Beta rubra. *Gerard.* 318.

On the sea-coast, common. B. August.

100 RUPTUREWORT. 308 Herniaria.

EMPAL. Cup of one leaf; with five divisions; sharp; expanding; coloured within; permanent.

BLOSS. None.

CHIVES. Threads five; awl-shaped; small; within the segments of the cup. Tips simple. There are five other threads without tips, alternating with the segments of the cup.

POINT. Seedbud egg-shaped. Shaft hardly any. Summits two; tapering; as long as the shaft.

S. VESS. Capsule small; at the bottom of the cup; covered; scarcely opening.

SEED. Solitary; egg-shaped but tapering; shining.

OBS. In one of the foreign species there are only four chives and four segments in the cup.

Smooth
Glabra

RUPTUREWORT. Smooth—*Eloffoms yellowish*.

Herniaria. Gerard. 569. Ray's Syn. 160.

Polygonum minus seu millegrana major. Baub. pin. 281.

Millegrana major, seu Herniaria vulgaris. Park. 446.

In gravelly soil. A. July.

It is a little saltish and astringent. It increases the secretions by the kidneys. The juice takes away Specks in the Eye.—Cows, Sheep and Horses eat it. Goats and Swine refuse it.

Rough
Hirsuta

RUPTUREWORT. Rough with hair—*Eloffoms greenish yellow*.

Herniaria hirsuta. Ray's Syn. 161.

In gravelly soil; not common. A. July—August.

Sea
Lenticulata

RUPTUREWORT. With some small roundish leaves; and flowers in terminating bunches—*Greenish white*.

Polygonum maritimum longius radicum nostras serpyllifolio circinato crasso nitente Ray's Syn. 161.

Polygonum minus lentifolium. Baub. pin. 282.

Polygonum minus monspeliense. Park. 445.

On the sea-shore. P. August.

101 E L M. 316 Ulmus.

EMPAL. Cup one leaf; turban-shaped; wrinkled; permanent. Border with five clefts; upright; coloured on the inside.

BLOSS. None.

CHIVES. Threads five; awl-shaped; twice as long as the cup. Tips with four furrows; upright; short.

POINT. Seedbud round and flat; upright. Shafts two; reflected; shorter than the chives; Summits downy.

S. VESS. Berry oval; large; not pulpy; compressed and membranaceous.

SEED. Single; somewhat globular, but a little compressed.

E L M. With doubly ferrated leaves; unequal at the base—Common. The flowering buds are beneath the leafy buds. Flowers in very short *Campestris* broad-topped spikes. Bark of the trunk cracked and wrinkled.

Ulmus vulgarissima folio lato scabro. Gerard. 1480. Ray's Syn. 468.

Ulmus campestris et Theophrasti. Baub. pin. 426.

1. Leaf broad and smooth. Bark smooth.

Ulmus glabra, Hudson, 95. Gerard. 1481. Park. 1404. Ray's Syn. 469.

Broad-leaved Elm. 1, Wych Hazel,

In hedges. S. April,

1. The leaves of both are subject to be broader or narrower and variegated with white or yellow stripes.

A decoction of the inner bark drank freely hath been known to carry off the water in Dropsies.—It cures the *Lepra ichthyosis Sauvagesii*, Lettsom's Medical Memoirs. Sect. 3.—The bark dried and ground to powder, hath been mixed with meal in Norway to make bread, in times of scarcity.—The flowers have a violet smell.—The wood being hard and tough, is used to make axletrees, mill-wheels, keels of boats, chairs and coffins.—The tree is beautiful, and well adapted to make shady walks, and it does not destroy the grass, and its leaves, are acceptable to Cows, Horses, Goats, Sheep and Swine; for this purpose it should be grafted upon the Wych Hazel, and then the roots will not send out suckers, which the common Elm is very apt to do, and give a great deal of trouble to keep the ground clear of them.—It loves an open situation, and a black or clayey soil. It bears to be transplanted. The great Tortoise-shell Butterfly, *Papilio polychloros*—Comma Butterfly, *Papilio c. album*—Spotted Buff Moth, *Phalæna lubricipeda*,—Emperor Moth, *Phalæna Pavonia*, Spotted Elm Moth, *Phalæna betularia*—Creamspot Tyger Moth,

Phalæna vellica—Elm Bug, *Cimex ulmi*—Fine streaked Bugkin, *Cimex striatus*—Elm Frog-hopper, *Cicada Ulmi*, and the Elm Louse, *Aphis Ulmi*, are found feeding upon the Elm-tree: the latter generally curl up the leaves so as to make them a secure shelter against the weather.

102 ERYNGO. 324 Eryngium.

EMPAL. Common Receptacle conical; florets fitting; separated by chaff. Fence of the receptacle flat; of many leaves, longer than the florets. Cup of five leaves; upright; sharp; longer than the blossom; sitting on the seedbud.

BLOSS. General, uniform; roundish. Florets all fertile. Individuals of five oblong petals; with the points bent inwards towards the base; and contracted by a line running length-ways.

CHIVES. Threads five; hair-like; straight; longer than the florets. Tips oblong.

POINT. Seedbud beneath; rough with hair. Shafts two; thread-shaped; straight; as long as the chives. Summits simple.

S. VESS. Fruit egg-shaped; divisible into two parts.

SEEDS. Oblong; cylindrical.

OBS. In some species the seeds fall out of the seed-vessel; in others they continue inclosed within it.

Sea
Maritimum

ERYNGO. The root leaves nearly circular; plaited; thorny; Flowering heads on fruit-stalks. Chaff with three points—Petals whitish, or blue.

Eryngium maritimum. Baub. pin. 386.

Eryngium marinum. Gerard. 1162. Park. 986. Ray's Syn. 222.

Sea Holly,

On the sea-shore. P. July—August.

The leaves are sweetish, with a light aromatic warmth and pungency. The roots are supposed to have the same aphrodisiac virtues as the bulbous roots in the twentieth Class. They are kept in the shops, candied. The young flowering shoots eaten like sparagus are very grateful and nourishing.

ERYNGO,

ERYNGO. The root-leaves embracing the stem; spear-shaped; but a little winged. Fence awl-shaped; longer than the flowering head—*Petals blue; sometimes white, or yellowish.*

Eryngium vulgare. Ray's Syn. 229.

Eryngium mediterraneum. Gerard. 1162.

Eryngium mediterraneum, seu campestre. Park. 986.

On the sea-coast. By the side of Watling-street near a village called Brook-hall not far from Daventry in Northamptonshire. P. July. August.

103 PENNYWORT. 325 Hydrocotyle.

Rundle Simple.

EMPAL. Fence frequently of four leaves; small. Cup hardly perceptible.

BLOSS. General; uniform in figure, but not in situation. Florets all fertile. Individuals; of five petals, egg-shaped; sharp; entire; expanding.

CHIVES. Threads five; awl-shaped; shorter than the blossom. Tips very small.

POINT. Seedbud beneath; upright; compressed; round; the fruit-stalks fixed to its centre; Shafts two; awl-shaped; very short. Summit simple.

S. VESS. None. Fruit compressed; round; divisible cross-ways into two parts.

SEEDS. Two; compressed; in the shape of a half moon.

PENNYWORT. The leaves with central leaf-stalks. About Marsh five flowers in a rundle—*Petals reddish white.*

Vulgaris

Hydrocotyle vulgaris. Ray's Syn. 222.

Cotyledon palustris. Gerard. 529. Park. 1214.

Ranunculus aquaticus cotyledonis folio. Bauh. pin. 180.

White-rot.

In marshy grounds. P. May.

The Farmers suppose it occasions the Rot in Sheep. (See BUTTERWORT.)

104 SANICLE. 326 Sanicula.

Rundle with very few spokes; (generally four.) *Rundlets* with many spokes crowded into heads.

EMPAL. *General Fence* going half way round on the outer side. *Partial Fence* going quite round; shorter than florets. *Cup* scarcely perceptible.

BLOSS. *General*, uniform. The *Florets* in the centre barren. *Individuals*; petals five, compressed; bent inwards so as to close the flower.

CHIVES. *Threads* five; simple; upright; twice as long as the petals. *Tips* roundish.

POINT. *Seedbud* beneath; rough with stiff hairs; *Shafts* two; awl-shaped; reflected. *Summits* sharp.

S. VESS. None. *Fruit* egg-shaped; sharp; rough; dividing into two.

SEEDS. Two. Convex and prickly on one side; flat on the other.

European
Europæa

SANICLE. The root-leaves simple. Florets all fitting—*Petals whitish*. Leaves dark-green, and shining.

Sanicula officinarum. *Bauh. pin.* 319.

Sanicula seu diapiensia. *Gerard.* 948. *Ray's Syn.* 221.

Sanicula vulgaris, five diapiensia. *Park.* 532.

In woods and hedges. P. May—June.

A French proverb says, "He who is possessed of Bugle and Sanicle, may dismiss his Surgeons;" but modern practice gives no countenance to such an assertion. The leaves are slightly bitter and astringent.

Sheep eat it. Goats are not fond of it. Horses refuse it.

105 MADNEP. 345 Heracleum.

Rundle very large; consisting of numerous flat *Rundlets*.

EMPAL. *General Fence* of many leaves; shedding. *Partial Fence* going half way round on the outer side. Leaves from three to seven; betwixt strap and spear-shaped; the outer leaves longer than the rest. *Cup* but faintly marked.

BLOSS. *General*; unequal, irregular in its shape. *Florets* nearly all fertile. *Individuals*: in the center; of five equal petals, bent and hooked inwards; notched at the end. In the circumference; of five unequal petals. The outer ones largest, with the deepest notches; hooked; oblong.

CHIVES. *Threads* five; longer than the petals. *Tips* small.

POINT *Seedbud* beneath; somewhat egg-shaped. *Shafts* two; short; near together. *Summits* simple.

S.VESS. None. *Fruit* oval, compressed; notched; scored in the middle each way.

SEEDS. Two; egg-shaped, compressed; with a leafy edge.

OBS. *In some species the florets in the circumference have only pointals without chives, and produce seeds; the central florets have chives without pointals and are barren. In the Cows Madnep the florets have all chives and pointals. The general fence is sometimes altogether wanting. In the two British species the florets in the center are composed of unequal petals as well as those in the circumference.*

MADNEP. The little leaves with winged clefts; smooth. *Cows*
Florets uniform—*White or tinged with red; all fertile.*

Sphondylium. Gerard. 1009. Ray's Syn. 205. *vulgare.* *Sphondylium*
Park. 953.

Sphondylium vulgare hirsutum. Baub. pin. 157.

1. There is a variety with larger and more jagged leaves.

Park. 953.

Cow Parsnep.

In hedges, very common. B. July.

In Poland and Lithuania, the poor people prepare a liquor from the leaves and seeds; which undergoes a fermentation, and is drank instead of ale—The stalks when peeled, are eaten by the Camschatkians—The Russians take the leaf-stalks of the root-leaves, peel them, and hang them in the sun to dry a little; then they tye them in little bundles, and hang them up again 'till they become yellow: in this state they put them into bags, and a meally substance like sugar forms upon the surface of them.

This

This they shake off, and treat their guests with it as a great delicacy. They likewise distill an ardent spirit from it. *Gmelin. Sibir.* 1. p. 214. the peelings of the stalks are acrid—The leaves are a favourite food of Rabbits and Hogs. Cows, Goats and Sheep eat them, but horses are not fond of them.

Jagged

Angustifolium

MADNEP. The little leaves strap shaped and slender, four at each joint of the leaf-stalk. Florets uniform—*White, or greenish.*

Sphondylium hirsutum, foliis angustioribus. Baub. pin. 157.
In hedges. P. July.

106 DROPWORT. 352 Oenanthe

Rundle with few spokes. *Rundlets* with many very short spokes.

EMPAL. *General Fence* of many leaves; simple; shorter than the rundle. *Partial Fence* of many leaves; small. *Cup* with five awl-shaped teeth; permanent.

BLOSS. *General*; irregular; unequal. *Florets* in the circumference barren. *Individuals*; in the center fertile; petals five; nearly equal; heart shaped but bent inwards. In the circumference with five petals; large; unequal; bent inwards; cloven.

CHIVES. *Threads* five; simple. *Tips* roundish.

POINT. *Seedbud* beneath. *Shafts* two; awl-shaped; permanent. *Summits* blunt.

S.VESS. None. *Fruit* nearly egg-shaped; crowned with the cup; divisible into two parts.

SEEDS. Two; somewhat egg-shaped; convex on one side; scored; flat on the other; toothed at the point.

OBS. *In this genus the cup is more evident than in the other plants whose flowers grow in rundles; and the general fence is often wanting in some of the species.*

Water

Fistulosa

DROPWORT. Sending forth suckers. Stem leaves winged; thread-shaped; hollow—*The first rundle is cloven into three parts; the others into many; so that the plant changes its appearance considerably in the course of the summer.* Petals white.

Oenanthe aquatica. Baub. pin. 162. Ray's Syn. 210.

Oenanthe palustris, seu aquatica. Park. 895.

Filipendula aquatica. Gerard. 1060.

In ponds and ditches, frequent. P. July.

Cows and Horses refuse it: though from experiments made on purpose, it does not appear to be in the least degree noxious to the former.

DROP.

DROPWORT. All the leaves with numerous blunt and Hemlock nearly equal clefts—*Stem yellowish red. Some leaves winged; but Crocata more doubly winged. The little leaves wedge-shaped; smooth; streaked; jagged at the edges. Fruit-stalks angular; scored. General Fence not always present. Petals white; sharp; bent inwards. Tips purple or brown. General blossom not very unequal.*

Oenanthe cicutæ facie lobelii. Park. 894. Ray's Syn. 210.

Oenanthe chærephylli foliis. Baub. pin. 162.

Filipendula cicutæ facie. Gerard. 1059.

Deadtongue.

Banks of rivers. P. June.

The whole of this plant is poisonous, and Dr. Poultney remarks, that the root is the most virulent of all the vegetable poisons that Great Britain produces. many instances of its fatal effects are recorded; for which, and for an elegant engraving of it see *Martyn's Philos. Transf. v. 10. p. 772. Also vol. 50. p. 856. See also Gent. Mag. for July 1747, for March 1755 and for September 1758.*—An infusion of the leaves, or three teaspoonfuls of the juice of the root taken every morning, effected a cure in a very obstinate cutaneous disease; but not without occasioning very great disturbances in the constitution. *Philos. Transf. v. 62. p. 469.*—Sheep eat it. Cows and Horses refuse it.

DROPWORT. The root leaves with wedge-shaped clefts. Pimpernel Stem leaves entire; strap-shaped; channelled: very long—*Stem Pimpinelloides about six inches high; angular. Rundle irregular. General and partial fence like awl-shaped bristles. Petals white; not quite equal.*

Oenanthe apii folio. Baub. pin. 162.

In flow streams, ponds and ditches. P. June.

107 PRICKLENEP. 329 Echinophora.

Rundle of many spokes: The intermediate ones shortest.

Rundlets of many florets; those in the center sitting.

EMPAL. *General Fence* of several sharp leaves. *Partial*

Fence turban-shaped; of one leaf, with six clefts, sharp; unequal. *Cup* very small; with five teeth; permanent.

BLOSS. *General;* irregular in its shape and unequal. *Florets* which have only chives, barren. Central florets fertile. *Individuals* of five unequal petals, standing open.

CHIVES. *Threads* five; simple. *Tips* roundish.

POINT. *Seedbud* beneath; oblong; involved in the fence.

Shafts two; simple. *Summits* simple.

S.VESS. None; but instead thereof the fence grows hard and sharp pointed and includes the feed.

SEED. Single; oblong egg-shaped.

PRICKLENEP

Marine
Spinosa

PRICKLENEP. The little leaves very entire: awl-shaped and terminating in a thorn—*Petals white; or reddish.*

Echinophora maritima spinosa. Ray's Syn. 220.

Crithmum maritimum spinosum. Baub. pin. 288.

Crithmum maritimum spinosum, seu pastinaca marina. Park. 1286.

Crithmum spinosum. Gerard. 533.

Prickley Sampire. Sea Parsnep,

Sea coast. P. July.

108 HENSFOOT. 331 Caulis.

Rundle, unequal; of very few spokes. *Rundlets* unequal, with more spokes; the five outermost of which are the longest.

EMPAL. General Fence with the leaves undivided; short; membranaceous at the edges; betwixt egg and spear-shaped; equal in number to the rays of the rundle. *Partial Fence* with leaves similar to the foregoing; longer than the spokes; generally five in number. *Cup* with five teeth, standing out.

BLOSS. General; irregular in its shape, and unequal. *Florets* in the center barren. *Individuals* in the center, without pointals; small; petals five; equal; heart shaped, but bent inwards. In the circumference, with both chives and pointals. Petals five; heart-shaped; bent inwards; the outermost the largest, and cloven.

CHIVES. Threads hair-like; five in every floret. *Tips* small.

POINT. Seedbud beneath: in the florets of the circumference oblong and rough. *Shafts* two; awl-shaped. *Summits* two; blunt; expanding.

S.VESS. Fruit oblong egg-shaped; scored lengthways; rough with bristly hairs.

SEEDS. Two; oblong; flat on one side, convex on the other; armed with awl-shaped prickles placed along the scores.

HENSFOOT

HENSFOOT. The general fence for the most part wanting. Fine-leaved Rundle cloven. Partial fence of five leaves.—*Leptophylla*

Caucalis arvensis echinata, parvo flore et fructu. *Bauh. pin.*

152.

Caucalis tenuifolia purpurea. *Park. 920.*

Fine leaved Bastard Parsley.

In cornfields. A. July.

HENSFOOT. The general rundle cloven into three parts. Broad-leaved Rundlets with five seeds. Leaves winged; ferrated—*Blossoms Latifolia pale red.*

Tordylium latifolium. *Hudson. 98. Berkenhout. 77.*

Caucalis arvensis echinata latifolia. *Bauh. pin. 152. Ray's*

Syn. 219.

Caucalis apii foliis, flore rubro. *Gerard. 1021.*

Echinophora arvensis latifolia purpurea. *Park. 920.*

Purple flowered great bastard Parsley.

In cornfields. A. June—July.

109 C A R R O T. 333 Daucus.

Rundle of many spokes: flat during the continuance of the blossoms, but afterwards concave and approaching. Rundlets similar to the foregoing.

EMPAL. General Fence of many leaves; as long as the rundle; the leaves strap-shaped with winged clefts. Partial Fence more simple; as long as the rundlet. Cup hardly perceptible.

BLOSS. General, irregular in its shape and unequal. Florets in the center barren. Individuals with five petals; heart-shaped but bent inwards; the outermost petal the largest.

CHIVES. Threads five; hair-like. Tips simple.

POINT. Seedbud beneath; small. Shafts two; reflected. Summits blunt.

S.VESS. None. Fruit egg-shaped; divisible into two; generally beset with inflexible hairs.

SEEDS. Two; somewhat egg-shaped; convex and rough with hairs on one side; flat on the other.

Wild
Carota

CARROT. The seeds rough with strong hairs. Leaf-stalks stringy on the under-side—*Petals white, or purplish. The central floret is often red, and brings forth a seed to all appearance perfect; though Linnæus says the central florets are barren.*

Daucus vulgaris. Ray's Syn. 218.

Pastinaca tenuifolia sylvestris. Baub. pin. 155. Gerard. 1028. Park. 902.

Birds Nest.

Varieties are.

1. Yellow and white rooted Carrot. *Ray's Syn. 218.*

2. Red rooted Carrot. *Ray's Syn. 218.*

3. Marine, shining, fine, leaved Carrot. *Ray's Syn. 218.*

In fields, common. Cultivated in gardens. B. June. July.

This in its cultivated state is the well known Garden Carrot, whose roots are eaten either boiled or raw. When raw, they are given to children troubled with worms. They seem to pass through most people but little changed—they are a grateful food to all kind of cattle, and well worthy of a more general cultivation for the purpose of the farmer. Crickets are very fond of Carrots, and are easily destroyed by making a paste of powdered arsenic, wheat meal and scraped Carrots, which must be placed near their habitations. A poultice made of the roots, hath been found to mitigate the pain, and abate the stench of foul and cancerous ulcers. The seeds have been sometimes used as diuretics and carminatives.

110 HARTWORT. 330 Tordylium.

Rundle unequal; of many spokes. *Rundlets* unequal, of many parts; very short; flat.

EMPAL. *General Fence*: the little leaves slender; undivided; frequently as long as the rundle. *Partial Fence* going half way round; outwardly longer than the rundlet. *Cup* with five teeth.

BLOSS. *General*, irregular in its shape and unequal. *Florets* all fertile. *Individuals* in the center, with five equal petals; heart-shaped but bent inwards. In the circumference; like the others; but the outermost petal which is the largest deeply divided.

CHIVES. *Threads* hair-like; five in every floret. *Tips* simple.

POINT. *Seedbud* beneath: in all the florets, roundish. *Shafis* two; small. *Summits* blunt.

S.VESS. *Fruit* roundish; almost flat; a little scolloped at the edge; divisible into two parts.

SEEDS. Two; roundish; almost flat; but raised and scolloped at the edge.

OBS. *This genus differs from the Hensfoot principally in the florets being all fertile.*

HARTWORT. The rundles crowded; little leaves betwixt Hedge egg and spear-shaped, with winged cletts—*General fence* of many leaves; simple and regular. Sometimes of only one leaf. Stem set with stiff sharp hairs, which are bent downwards and contiguous to the stem. Petals not very unequal; white: reddish beneath.

Caucalis minor, flosculis rubentibus. Gerard. 1022. Ray's Syn. 219.

Caucalis minor, flore rubente. Park. 921.

Caucalis femine aspero, flosculis rubentibus. Bauh. pin. 153.

Caucalis anthriscus. Hudson. 99.

1. *General fence* of only one leaf.

Caucalis segetum minor, anthriscu hispido similis. Ray's Syn. 220.

Caucalis arvensis. Hudson. 99.

Hedge Parsley, 1. Small Corn Parsley.

In hedges, common. B. August.

Horses are extremely fond of it.

Knotted
Nodosum

HARTWORT. Rundles simple; sitting. Seeds rough on the outer sides.—

Caucalis nodoso echinato femine. Baub. pin. 153. Gerard. 1022. Park. 921. Ray's Syn. 220.

Knotted Parsley.

Cornfields. A. May.

III HARESTRONG. 339 *Peucedanum*.

Rundle of many very long, slender spokes. *Rundlets* expanding.

EMPAL. *General Fence* of many leaves; strap-shaped, small, reflected. *Partial Fence*, still smaller. *Cup* with five teeth; very small.

BLOSS. *General*, uniform. *Florets* in the center barren. *Individuals*; petals five; equal; oblong; entire; bent inwards.

CHIVES. *Threads* five; hair-like. *Tips* simple.

POINT. *Seedbud* beneath: oblong. *Shafts* two; small. *Summits* blunt.

S.VESS. None. *Fruit* egg-shaped; divisible into two; scored on each side, encompassed round by a membranaceous border.

SEEDS. Two; oblong egg-shaped; compressed; convex on one side and marked by three rising ridges; bound round by a broad flat membrane; notched at the end.

Fennel-leaved
Officinale

HARESTRONG with leaves five times divided into threes; thread and strap-shaped—*Petals yellowish*.

Peucedanum. Gerard. 1054. Ray's Syn. 206. Germanicum. Baub. pin. 146.

Peucedanum vulgare. Park. 830.

Hogsfennel. Sulphurwort.

Salt marshes. P. June.

The roots have a strong fætid smell, and an acrid, bitterish, unctuous taste. Wounded in the spring they yield a considerable quantity of yellow juice, which dries into a gummy resin and retains the strong smell of the root. Its virtues have not yet been ascertained with any precision.

HARESTRONG. The little leaves with winged clefts; Meadow segments opposite. General fence of two leaves—*Petals yellow*; Silaus *white on the outside*.

Seseli pratense nostras. Park. 905. Ray's Syn. 216.

Saxifraga anglica facie seseli pratensis. Gerard. 1047.

Seseli caruifolia. Hudson. 106.

Meadow Saxifrage.

Meadowes and moist pastures. P. August.

112 H E M L O C K. 336 Conium

Rundle of many spokes; expanding. *Rundlets* the same.

EMPAL. *General Fence* of many leaves; very short; unequal. *Partial Fence* the same. *Cup* hardly perceptible.

BLOSS. *General*, uniform. *Individuals*; *Petals* five; unequal; heart-shaped but bent inwards.

CHIVES. *Threads* five; simple. *Tips* roundish.

POINT. *Seedbud* beneath. *Shafts* two; reflected. *Summits* blunt.

S. VESS. None. *Fruit* nearly globular; with five scolloped ridges; divisible into two parts.

SEEDS. Two; convex on one side; almost hemispherical; scored; flat on the other side.

Obs. *The Partial Fence* consists of one leaf, divided into three parts.

HEMLOCK. The seeds scored—*Stems and branches* spotted Spotted
with brown or black. *Petals* white. Maculatum

Cicuta major. Baub. pin. 160.

Cicuta. Gerard. 1061. Ray's Syn. 215.

Cicuta vulgaris major. Park. 932.

1. There is a variety with finer divisions in the leaves.

Kex.

In hedges, orchards, and amongst rubbish. P. June—July.

The whole plant is poisonous, and many instances are recorded of its deleterious effects; but modern experience hath proved it to be less virulent than was formerly imagined. Dr. Storck of Vienna was the first who ventured to give it internally in considerable quantities, and from his account of its good effects in a variety of cases, particularly in cancers and schirrus tumours, it hath been very generally employed in this kingdom. He directs an extract to be prepared from it by evaporating the expressed juice over the fire, and then adding a sufficient quantity of the powdered leaves to form it into pills. He generally gave

M

from

from two to twelve grains for a dose, but some have taken it in much larger quantities. By the accounts from Vienna, the expectations of the world were raised to a very high pitch; and, as is then generally the case, these expectations have been disappointed; so that after a very extensive application of it for several years, it is now likely to be entirely disregarded, as a medicine of little or no use. Perhaps, however, the truth will be found to lie in the medium betwixt the two opinions. Many reasons may be assigned to shew that it hath yet undergone but an imperfect trial; some of which I shall beg leave to mention.

1st. The *Wild Cicely*, or *Cow-weed*, hath often been gathered instead of the intended plant; and it is not improbable but other plants may have been likewise mistaken for it, for many of the *Rundle-bearing* or *Umbelliferous Plants* are so much alike, that it requires more skill in Botany to distinguish them, than we can suppose the common collectors of medicinal plants to possess. They know plants that they have been taught to collect and to distinguish, but this was one that had never before been in request. After some time, however, the spots upon the stalks were pointed out as a criterion, and then there was less probability of mistakes.

2dly. The season of its highest perfection hath never yet been sufficiently ascertained. Some suppose it ought to be gathered just as its blossoms open, others say not till the seeds are forming; but even these suppositions have been too little attended to.

3dly. Perhaps the plants of this natural order have their properties more changed by soil and situation, than those of any other natural order; yet this circumstance hath been entirely disregarded.

4thly. No vegetable that is used in medicine is more liable to ferment than this. I have seen it, when collected in a bag and carried only two miles on horseback, heat and ferment to such a degree, that the yield of extract was much less than usual and the properties of it greatly impaired.

5thly. At its first introduction it was very common to take only the clearer part of the expressed juice, and to throw away the feculencies. Whenever this is done, the medicine is spoiled.

6thly. Too little attention hath been given to the degree of heat applied during the evaporation. Many things lose their peculiar properties when exposed to more than the heat of boiling water, and others are greatly changed even by that. Many reasons may be alledged to prove that Hemlock is one of these.

When further experience hath pointed out the best season for gathering the plant, and in what soils and situations it possesses the greatest virtues, I believe a medicine much more efficacious than that commonly used, may be obtained by attending to the following directions.

Let

Let several people be employed to gather the plant; and as fast as it is cut, let others carry it in hand baskets to the press; but it must lie light and loosely in the baskets. Let the juice be immediately squeezed out; and as fast as it runs from the press, it must be put over the fire, and boiled 'till three parts out of four of the whole liquor is wasted. Then it must be put into a water bath, and evaporated to the consistence of honey. If it is now taken and spread thin upon a board or marble slab, and exposed to the sun and the air, it will soon be of a proper consistence to be formed into pills. From five to ten grains of this extract is a proper dose; few constitutions will bear more without experiencing disagreeable effects.

Such a medicine as this I believe will be found an useful addition to our materia medica: not that I have seen it cure cancers either in an ulcerated state or otherwise, but I have never given it without a mitigation of pain and an amendment of the discharge. Dr. Fothergill in the 3d vol. of the Medical Observations, hath given us a variety of cases to which I can with pleasure refer the reader, as they perfectly correspond with my own experience in a pretty extensive hospital practice for several years past. Dr. Butter uses it in the chincough; but I have had no opportunity of trying it in that disease.

After all it may be said, that it acts merely as a narcotic, and only effects what small doses of opium will do, in a less disagreeable manner. But 'till further experience gives a sanction to this opinion it must not be too hastily adopted; and if it should prove at last that it is only a narcotic, surely there are many cases in which a narcotic that does not occasion costiveness is preferable to one that does. Sheep eat the leaves; Horses, Cows and Goats refuse them. Thrush feed upon the seeds.—There is a good engraving of this plant in the *Gent. Mag.* 1762. p. 273.

113 PIGNUT. 335 Bunium

Rundle with fewer than twenty spokes. *Rundlets* very short; crowded.

EMPAL. *General Fence* of many strap-shaped short leaves. *Partial Fence* bristly; as long as the rundlet. *Cup* hardly discernible.

BLOSS. *General* uniform. *Florets* all fertile. *Individuals;* petals five; equal; heart shaped, bent inwards.

CHIVES. *Threads* five; shorter than the petals; *Tips* simple.

POINT. *Seedbud* beneath: oblong. *Shafts* two; reflected. *Summits* blunt.

S. VESS. None. *Fruit* egg-shaped; divisible into two parts.

SEEDS. Two; egg-shaped; convex on one side; flat on the other.

Bulbous-rooted
Bulbocastanum

PIGNUT. As there is only one species known **Linnaeus** gives no description of it—*The Leaves* winged. *Roots* bulbous. *Petals* white.

Bulbocastanum. *Ray's Syn.* 209.

Bulbocastanum majus, folio apii. *Bauh. pin.* 162.

Bulbocastanum majus et minus. *Gerard.* 1065.

Nucula terrestris major. *Park.* 893.

Earth Nut. *Kipper Nut.* *Hawknut.* *Jurnut.*

In orchards and pasture. P. May—June.

The roots eaten either raw or boiled are very little inferior to Chestnuts, and would be an agreeable addition to our winter deserts.

114 SPIGNEL. 338. Athamanta

Rundle of many spokes, expanding. *Rundlets* with fewer spokes.

EMPAL. *General Fence* of many strap-shaped leaves; a little shorter than the spokes. *Partial Fence* strap-shaped; as long as the spokes. *Cup* not discernible.

BLOSS. *General*, uniform. *Florets* all fertile. *Individuals*; petals five; heart-shaped; bent inwards; nearly equal.

CHIVES. *Threads* five; hair-like; as long as the petals. *Tips* roundish.

POINT. *Seedbud* beneath. *Shafts* two; distant. *Summits* blunt.

S. VESS. None. *Fruit* oblong egg-shaped; scored; divisible into two parts.

SEEDS. Two; egg-shaped; convex and scored on one side, flat on the other.

SPIGNET. The leaves doubly winged, flat. *Rundles* in Mountain form of half a globe. Seeds rough with hair—*Leaf-stalks* a little Libanotis compressed, and channelled betwixt the little Leaves. *Shafts* purple. Stem about two feet high, with strongly marked angles; unequally furrowed; generally simple and rather smooth; bending a little towards the top. Leaves smooth on the upper surface, pale and full of veins beneath; scarce sensibly hairy at the edges. Petals white.

Apium petræum, seu *montanum album*. Ray's Syn. 219.

Daucus montanus apii folio albicans. Baub. pin. 157.

Mountain Stone Parsley.

Dry pastures. P. August—September.

Sheep and Swine eat it. Cows refuse it.

SPIGNET. The little leaves hair-like: seeds scored; smooth Common
—Petals white. Meum

Meum foliis anethi. Baub. pin. 148.

Meum. Gera d. 1052. Ray's Syn. 207. *vulgatius*. Park. 888.

Meu. Bald or *Bawd-money*.

On hilly pastures. P. May.

The roots and seeds are aromatic and acrid. They have been used as stomachics and carminatives. Sometimes they are given to cure the tertian ague; and there is no doubt but they will often answer as well as pepper and other acrid aromatics.

115 THOROUGHWAX. 328 Bupleurum.

Rundle with fewer than ten spokes. *Rundlets* with about ten upright expanding spokes.

EMPAL. *General Fence* of many leaves. *Partial Fence* larger; of five leaves; the leaves expanding; egg-shaped; sharp. *Cup* not discernible.

BLOSS. *General*, uniform. *Florets* all fertile. *Individuals*; petals five; very short; entire; rolled inwards.

CHIVES. *Threads* five; simple. *Tips* roundish.

POINT. *Seedbud* beneath. *Shafts* two; reflected; small *Summits* very small.

S.VESS. None. *Fruit* roundish; compressed; scored; divisible into two.

SEEDS. Two; oblong egg-shaped; convex and scored on one side; flat on the other.

Round-leaved
Rotundifolium

THOROUGHWAX without any general fence. Leaves perforated—*Smooth*; *bluish green*. Petals *yellowish*.

Bupleurum perfoliatum rotundifolium annuum. Ray's Syn. 221.

Perfoliata vulgaris. Gerard. 536. Park. 580.

Perfoliata vulgarissima, seu arvensis. Baub. pin. 272.

In cornfields. A. July.

Fine-leaved
Tenuissimum

THOROUGHWAX. The rundles simple; alternate; with five leaves, and about three florets—*Stem very much branched*. *Branches alternate*. *General Fence* of three short leaves. *Partial Fence* with short bristle-shaped leaves. *Rundles* at the base of the leaves. Leaves *strap-shaped*; sharp; Petals *yellowish*.

Bupleurum minimum. Park. 587. Ray's Syn. 221.

Bupleurum angustissimo folio. Baub. pin. 278.

Least Hares Ear.

In pastures, not common. A. July—August.

116 KEX. 348 Sium.

Rundle various in various species. *Rundlets* flat and expanding.

EMPAL. *General Fence* of many reflected leaves; shorter than the rundle. The leaves spear-shaped. *Partial Fence* of many leaves; strap-shaped; small. *Cup* hardly perceptible.

BLOSS. *General*, uniform. *Florets* all fertile. *Individuals*; petals five; equal; heart-shaped; bent inwards.

CHIVES. *Threads* five; simple. *Tips* simple.

POINT. *Seedbud* beneath: very small. *Shafts* two; reflected. *Summits* blunt.

S.VESS. None. *Fruit* roundish, egg-shaped; scored; small; divisible into two.

SEEDS. Two; nearly egg-shaped; convex and scored on one side; flat on the other.

OBS. *The general fence in the Creeping Kex is often wanting.*

KEX with winged leaves and terminating rundles—*Little* Greater
leaves serrated. Petals white. Latifolium

Sium latifolium, foliis variis. *Ray's Syn.* 211.

Sium latifolium. *Bauh. pin.* 154.

Sium majus latifolium. *Gerard.* 256.

Sium diofcoridis, seu *pastinaca aquatica major.* *Park.* 1240.
Great Water Parsnep.

In rivers and fens. P. July—August.

Horses and Swine eat it. Sheep are not fond of it. The roots are noxious to cattle.

KEX with winged leaves, and rundles on fruit-stalks at the Lesser
base of the leaves. General fence with winged clefts—*Leaves* Angustifo-
halberd-shaped at the base. *Rundles opposite to the leaves.* lium

Sium majus angustifolium. *Gerard.* 256.

Sium minus alterum. *Park.* 1241.

Sium five apium palustre foliis oblongis. *Bauh. pin.* 154.

Ray's Syn. 211.

Sium erectum. *Hudson.* 103.

Upright Water Parsnep.

Ditches and rivulets. P. June.

It certainly possesses active properties that ought to be enquired into.

Creeping
Nodiflorum

KEX. With winged leaves and rundles sitting, at the base, of the leaves—*The general fence is seldom present. Petals white.*

Sium umbellatum repens. Gerard. 256. Ray's Syn. 211.

Creeping Water Parsnep.

In rivers and ditches, common. P. July. August.

117 SAMPHIRE. 340 Crithmum.

Rundle of many spokes; hemispherical. *Rundlets* the same.

EMPAL. *General Fence* of many leaves. The *Leaves* spear-shaped; blunt; reflected. *Partial Fence* betwixt spear and strap-shaped; as long as the rundlet. *Cup* hardly perceptible.

BLOSS. *General*; uniform. *Florets* all fertile. *Individuals*; petals five; egg-shaped; bent inwards; nearly equal.

CHIVES. *Threads* five; simple; longer than the petals. *Tips* roundish.

POINT. *Seedbud* beneath. *Shafts* two; reflected. *Summits* blunt.

S.VESS. None. *Fruit* oval; compressed; divisible into two.

SEEDS. Two; oval; flat, but somewhat compressed; scored on one side.

Sea
Maritimum

SAMPHIRE. The little leaves fleshy; spear-shaped—*Petals yellow.*

Crithmum marinum. Gerard. 353. Ray's Syn. 217.

Crithmum seu faniculum marinum minus. Baub pin. 288.

Crithmum marinum vulgare. Park. 1286.

On the sea coast. P. August.

Shakespear, speaking of Dover cliffs, remarks the growth of samphire.

“Come on fir, here's the place—stand still. How fearful

“And dizzy 'tis to cast one's eyes so low!

“The crows and chows, that wing the midway air,

“Shew scarce so gross as beetles. Half way down

“Hangs one that gathers samphire; dreadful trade!”

KING LEAR.

Poor people on the sea coast eat it as a pot-herb. It is very generally used as a pickle.

118 LOVAGE. 346 Ligusticum.

Rundle of many spokes. *Rundlets* the same.

EMPAL. *General Fence* of seven unequal membranaceous leaves. *Partial Fence* of about four membranaceous leaves. *Cup* of five teeth; but hardly perceptible.

BLOSS. *General*, uniform. *Florets* all fertile. *Individuals*; petals five; equal; flat; entire; rolled inwards, and keel-shaped on the inside.

CHIVES. *Threads* five; hair-like; shorter than the petals. *Tips* simple.

POINT. *Seedbud* beneath. *Shafts* two; standing close together. *Summits* simple.

S. VESS. None. *Fruit* oblong; angular; with five furrows: divisible into two.

SEEDS. Two; oblong; glossy; marked on one side with five ridges; flat on the other.

LOVAGE. With doubly threefold leaves—*Petals* white.

Parsley

Ligusticum scoticum apii folio. *Ray's Syn.* 214.

Scoticum

Scottish Sea Parsley.

On cliffs on the sea shore; not common. B. July.

This plant is much valued in the isle of Sky. The root is reckoned a good carminative, and an infusion of the leaves is thought a good purge for calves. It is besides used as food; either raw, as a sallad; or boiled as greens. *Pennant's Tour.* 1772. P. 310.

Horses, Sheep and Goats eat it. Cows refuse it.

LOVAGE. The leaves doubly compound; jagged. Root—Saxifrage

Cornubiense

Smyrnium tenuifolium nostras. *Ray's Syn.* 209. tab. 8.

Cornwall Saxifrage.

In Cornwall. P. July.

119 ANGELICA. 347 Angelica.

Rundle of many spokes; nearly globular. **Rundlets** exactly globular.

EMPAL. *General Fence* small; of three or five leaves. *Partial Fence* small; of eight leaves. *Cup* with five teeth; hardly discernible.

BLOSS. *General*, uniform. *Florets* all fertile. *Individuals*; petals five; spear-shaped, rather flat; but a little bent inwards; shedding.

CHIVES. *Threads* five; simple; longer than the petals. *Tips* simple.

POINT. *Seedbud* beneath. *Shafts* two; reflected. *Summits* blunt.

S.VESS. None. *Fruit* roundish; angular; solid; divisible into two.

SEEDS. Two; egg-shaped; flat on one side and encompassed with a border; convex on the other side, with three furrowed lines.

OBS. *In the Wild Angelica the general fence is often wanting.*

Wild
Sylvestris

ANGELICA. Little leaves all alike; betwixt egg and spear-shaped: serrated—*Petals greenish white.*

Angelica sylvestris. Gerard. 999. Park. 940. Ray's Syn. 208.

Angelica sylvestris major. Baub pin. 145.

In woods and wet hedges. P. June. July.

It is warm, acrid, bitter and aromatic; but the species cultivated in our gardens possessing these properties in a higher degree, this hath been long neglected.

Cows, Goats and Swine eat it. Horses refuse it.

The Royal William or Swallow-tailed Butterfly. *Papilio Machaon* is found upon this plant.

120 HONEWORT. 349 Sifon.

Rundle unequal; with fewer than six spokes. *Rundlets* unequal, with fewer than ten spokes.

EMPAL. *General Fence* of four leaves; unequal. *Partial Fence* the same. *Cup* hardly perceptible.

BLOSS. *General*, uniform. *Florets* all fertile. *Individuals*; equal; of five petals; spear-shaped; flat, but a little bent inwards.

CHIVES. *Threads* five; hair-like; as long as the petals. *Tips* simple.

POINT. *Seedbud* beneath; nearly egg-shaped. *Shafts* two; reflected. *Summits* blunt.

S.VESS. None. *Fruit* egg-shaped; scored; divisible into two.

SEEDS. Two; egg-shaped; convex and scored on one side, and flat on the other.

HONEWORT. With winged leaves and upright rundles— Hedge
Terminating. Petals white. Amomum

Sifon quod amomum officinis nostris. *Bauh pin.* 154.

Sifon vulgare, vel amomum germanicum. *Park.* 914.

Sium aromaticum sue sifon officinalis. *Ray's Syn.* 211.

Petroselinum macedonicum fuchii. *Gerard.* 1016.

Bastard Stone Parsley.

In woods and moist hedges. P. August. September.

The seeds are a mild warm aromatic. They give out their virtues to rectified spirit, and tincture it green.

HONEWORT. With winged leaves and nodding rundles— Corn
Petals white. Segetum

Sium arvense, five segetum. *Ray's Syn.* 211.

Selinum fii foliis. *Gerard.* 1018.

Selinum segetale. *Park.* 932.

Corn Parsley.

In cornfields and hedges in clay lands. B. July.

HONEWORT. With creeping stems and cloven rundles— Marsh
The leaves above the water winged; but those beneath the surface more finely divided. Inundatum

Sium pucillum. *Ray's Syn.* 212.

Least Water Parsnep.

Rundle expanding; the inner spokes gradually shorter, and those in the center the shortest of all. *Rundlets* small; expanding.

EMPAL. *Partial Fence* with three or five leaves; going half way round upon the outside, strap-shaped; very long; pendant. *Cup* hardly perceptible.

BLOSS. *General*, nearly uniform. *Florets* all fertile. *Individuals*; petals five; unequal, heart-shaped, but bent inwards.

CHIVES. *Threads* five; simple. *Tips* roundish.

POINT. *Seedbud* beneath. *Shafts* two; reflected. *Summits* blunt.

S.VESS. None. *Fruit* roundish, egg-shaped; scored; divisible into two.

SEEDS. Two; roundish, scored: on one side, which is about a third part, flat.

Hogs
Cynapium

CICELY. As there is only one species known Linnæus gives no description of it—*The Stem* furrowed, branched. *Leaves* winged, smooth, glossy. *Petals* whitish. *Seeds* very large.

Cicutaria tenuifolia. Gerard. 1063. Ray's Syn. 215.

Cicuta minor seu fatua. Park. 933.

Cicuta minor petroselino similis. Bauh pin. 160.

Fools Parsley. Lesser Hemlock.

In cornfields and gardens. A. August—September.

This plant, from its resemblance to common Parsley, hath sometimes been mistaken for it, and when eaten it occasions sickness. If the curled-leaved Parsley only, was cultivated in our gardens, no such mistakes would happen in future.

Cows, Horses, Sheep, Goats and Swine eat it. It is noxious to Geese.

122 CORIANDER. *Coriandrum*. 356.

Rundle of few spokes. *Rundlets* of many. *General Fence* for the most part absent; but sometimes there is a single leaf.

EMPAL. *Partial Fence* of three strap-shaped leaves, going half way round. *Cup* with five teeth; standing out.

BLOSS. *General*; irregular in its shape and unequal. *Florets* in the center barren. *Individuals*; of the center with both chives and pointals; petals five; equal; heart-shaped, but bent inwards. *Individuals* of the circumference with both chives and pointals. Petals five; heart-shaped but bent inwards; the outermost the largest and deeply divided; those on each side of it have large segments.

CHIVES. *Threads* five; simple. *Tips* roundish.

POINT. *Seedbud* beneath. *Shafts* two; distant. *Summits* in the florets of the circumference roundish.

S. VESS. None. *Fruit* globular; divisible into two.

SEEDS. Two; hemispherical: concave.

CORIANDER. With globular fruit.—*Petals white*.

Coriandrum. *Gerard*. 1012. *Ry's Syn*. 221.

Coriandrum majus. *Bauh pin*. 158. *vulgare*. *Park*. 918.

Road sides and dunghills. A. June.

The leaves have a strong disagreeable smell. The seeds are tolerably grateful when dry. The Edinburgh College use them as correctors in the bitter infusion and the preparations of fenna, for nothing so effectually covers the disagreeable taste of that medicine. Confectioners incrust the seeds with sugar. They have been considered as suspicious if not deleterious, but I have known six drams of them taken at once, without any remarkable effect.

Cultivated
Sativum

123 SHEPHERDSNEEDLE. 357 Scandix.

Rundle long; with few spokes: *Rundlets* with more. *General Fence* wanting.

EMPAL. *Partial Fence* of five leaves; as long as the *rundlets*. *Cup* not distinguishable.

BLOSS. *General*; irregular in its shape and unequal. *Florets* in the center barren. *Individuals*; petals five; heart-shaped, bent inwards; the inner ones small; the outer ones larger.

CHIVES. *Threads* five; hair-like. *Tips* roundish.

POINT. *Seedbud* beneath: oblong. *Shafts* two; awl-shaped; distant; permanent; as long as the smallest petal. *Summits* in the unequal *florets*, blunt.

S.VESS. None. *Fruit* awl-shaped; very long; divisible into two.

SEEDS. Two; awl-shaped; convex and furrowed on one side; flat on the other.

OBS. *In the first species the seeds are thread-shaped, hiding a kernel at the base.*

Common **SHEPHERDSNEEDLE.** The seeds with an exceeding long *Pecten Veneris* bill—*Petals white*.

Scandix femine rostrato vulgaris. *Bauh. pin.* 152. *Ray's Syn.* 207.

Scandix vulgaris, feu pecten veneris. *Park.* 916

Pecten veneris, feu scandix. *Gerard.* 1040.

Venus comb. *Crake needle.*

Corn fields. A. June. July.

Chervil
Cerfolium

SHEPHERDSNEEDLE. The seeds shining; egg-shaped below, but awl-shaped upwards. *Rundles* lateral; sitting.—*Petals white.* *Seeds black.* *About four spokes in each rundle.* *Florets all fertile.*

Chærophylum fativum. *Bauh pin.* 152.

Cerfolium vulgare fativum. *Gerard.* 1038.

Common chervil.

Meadows and rich ground. A. May.

It is cultivated in our gardens as a pot-herb, and for fallads. It is slightly aromatic and aperient.

Cows are extremely fond of it. Sheep and Goats eat it. Horses refuse it.

SHEPHERDSNEEDLE.

SHEPHERDSNEEDLE. The seeds egg-shaped; covered with strong hairs. Florets uniform. Stem smooth—*Petals white.* Hemlockleaved Anthriscus

Myrrhis sylvestris feminibus asperis. Baub. pin. 160. Ray's Syn. 220.

Myrrhis sylvestris neapolitana atque etiam anglicana. Park. 935.

Cerfolium, five myrrhis nova equicolorum columnæ. Gerard. 1028.

Small Hemlock Chervil with rough seeds.

Cornfields, road-sides; very common. A. May—June.

Cows, Goats and Sheep eat it.

124 COW - W E E D. 358 Chærophylum.

Rundle expanding. *Rundlets* with nearly the same number of Spokes.

EMPAL. *General Fence*, none. *Partial Fence* of about five leaves; spear-shaped; concave; reflected; nearly as long as the rundlets. *Cup* not discernible.

BLOSS. *General*, pretty uniform. *Florets* in the centre generally barren. *Individuals*; petals five; heart-shaped; bent inwards, flattish; with a sharp point bending inwards; the *outermost* petals rather the largest.

CHIVES. *Threads* five; simple as long; as the rundlet. *Tips* roundish.

POINT. *Seedbud* beneath; *Shafts* two; reflected. *Summits* blunt.

S. VESS. None. *Fruit* oblong egg-shaped; taper; smooth; divisible into two.

SEEDS. Two; oblong; growing smaller upwards. Convex on one side, flat on the other.

OBS. *The seeds in the center are often barren.*

COW-WEED. The stem smooth; scored; with crooked swelled joints—*Petals* entire; flat; white. *Fruit-stalks* cylindrical. *Outer leaf of the partial fence* much larger than the rest. Wild Sylvestre

Cicutaria vulgaris. Ray's Syn. 207.

Cicutaria alba Lugdunensis. Gerard. 1038.

Myrrhis sylvestris. Park. 935. Seminibus lævibus. Baub. pin. 160.

Wild Cicely.

In hedges. A. May. June.

The roots eaten as *Parineps* have been found poisonous. The rundles afford an indifferent yellow dye; the leaves and stalks a beautiful green. Its presence indicates a fertile and grateful soil. Neither Horses, Sheep or Goats are fond of it. Cows and Swine refuse it.

COW.

Chervil
Temulum

COW-WEED. Stem rough; with crooked swelled joints—*Rundles before flowering drooping. Stem but little furrowed; marked with purple spots, and set with white hairs which stand out. Rundlets in the center barren. Petals very white.*

Cherophyllum sylvestre. Baub. pin. 152.

Cherierolium sylvestre. Gerard. 1038. Park. 915. Ray's Syn. 207.

Wild Chervil.

Common in hedges. A. July—August.

Cows and Sheep refuse it.

125 WATERWORT. 353 Phellandrium.

Rundle with many spokes. Rundlets the same. General Fence none.

EMPAL. *Partial Fence of seven leaves; sharp; as long as the rundlet. Cup of five teeth; permanent.*

BLOSS. *General; nearly uniform. Florets all fertile. Individuals; unequal. Petals five; tapering; heart-shaped; bent inwards.*

CHIVES. *Threads five; hair-like; longer than the petals. Tips roundish.*

POINT. *Seedbud beneath: Shafts two; awl-shaped; upright; permanent; Summits blunt.*

S. VESS. *None. Fruit egg-shaped; smooth; crowned with the cup and the pointals; divisible into two parts.*

SEEDS. *Two; egg-shaped; smooth.*

Obs. *The florets in the center are smaller than the others.*

Skeleton
Aquaticum

WATERWORT, with the branchings of the leaves straddling—*Stem very thick, hollow, scored, Petals white.*

Phellandrium vel cicutaria aquatica quorundam. Ray's Syn. 215.

Cicutaria palustris. Gerard. 1062.

Cicutaria palustris tenuifolia. Baub. pin. 161.

Water Hemlock.

Rivers, ditches, pools. B. June.

The seeds are recommended in Intermittent Fevers.—The leaves are sometimes added to discutient Cataplasms—It is generally esteemed a fatal poison to Horses, occasioning them to become paralytic; but this effect is owing to an insect, (*Curculio paraplecticus*) which generally inhabits within the stems. The usual antidote is pig dung.—In the winter the roots and stem, dissected by the influence of the weather, afford a very curious skeleton or net work.—Horses, Sheep and Goats eat it. Swine are not fond of it. Cows refuse it. The black Chrysomela, *Chrysomela Phellandria*, and the Gilt Leptura are found upon the roots, and the *Curculio paraplecticus* within the stems.

126 COWBANE. 354 Cicuta.

Rundle roundish, with many equal spokes. *Rundlets* roundish with many bristle-shaped spokes.

EMPAL. *General Fence* none. *Partial fence* of many leaves; little leaves bristly; short. *Cup* scarcely evident.

BLOSS. *General*; uniform. *Florets* all fertile. *Individuals*; petals five; egg-shaped; nearly equal; bent inwards.

CHIVES. *Threads* five; hair-like; longer than the petals. *Tips* simple.

POINT. *Seedbud* beneath; *Shafts* two; thread shaped; longer than the petals; permanent. *Summits* roundish.

S. VESS. None. *Fruit* nearly egg-shaped; slightly furrowed; divisible into two.

SEEDS. Two; somewhat egg-shaped; convex and scored on one side, flat on the other.

COWBANE, with rundles opposite the leaves. Leaf-stalks with Water blunt borders—*Leaves* with about seven pair of little leaves, which *Virosa* are variously divided and indented. Petals yellowish pale green.

Sium alterum olusatrici facie. Gerard. 256. Ray's Syn. 212.

Sium majus alterum angustifolium. Park. 1241.

Sium erucæ folio. Bauh. pin. 154.

Long-leaved Water Hemlock.

In shallow waters. P. July.

This is one of the rankest of our vegetable poisons. Numerous instances are recorded of its fatality to the human species in *Wepfer's Treatise*, and in the *Enum: Stirp. Helv.* p. 436. (See also an account of its deleterious effects, and an elegant engraving of it in *Martyn's Philos. Transf.* vol. 10.) Early in the spring when it grows in the water, Cows often eat it and are killed by it; but as the summer advances and its smell becomes stronger, they carefully avoid it. Though a certain and fatal poison to Cows, Goats devour it greedily and with impunity. Horses and Sheep eat it with safety.

127 ALEXANDERS. 363 Smyrnium.

Rundle unequal; daily increasng. *Rundlets* upright.
Fences none.

EMPAL. *Cup* hardly perceptible.

BLOSS. *General*, uniform. *Florets* in the centre barren.
Individuals; petals five; spear-shaped; keeled on
the under-side; slightly bent inwards.

CHIVES. *Threads* five; simple; as long as the petals.
Tips simple.

POINT. *Seedbud* beneath. *Shafts* two; simple. *Summits*
two; simple.

S. VESS. None. *Fruit* nearly globular; scored; divisible
into two.

SEEDS. Two; crescent-shaped; convex on one side and
marked with three angles: flat on the other.

Common
Olusatrum

ALEXANDERS. The stem leaves growing by threes; on
leaf-stalks; serrated—*Sheaths* of the leaves ragged and fringed.
Partial fence very short. *Petals* greenish white.

Smyrnium. *Ray's Syn.* 208.

Hippofelinum. *Gerard.* 1019.

Hippofelinum seu Smyrnium vulgare. *Park.* 930.

Hippofelinum Theophrasti, seu Smyrnium dioscoridis. *Bauh.*
pin. 154.

Upon rocks on the sea-coast, and about Nottingham. B.
May—June.

It was formerly cultivated in our gardens, but its place is
now better supplied by Celery.

128 CARAWAY. 365 Carum.

Rundle with ten spokes; long, and often unequal. **Rundlets** crowned. **Fences** none; or only one leaf for the general fence.

EMPAL. Cup hardly perceptible.

BLOSS. General; uniform. **Florets** in the center barren. **Individuals**; unequal. **Petals** five; unequal; blunt; heart-shaped; bent inwards at the end.

CHIVES. **Threads** five; hair-like; as long as the petals; shedding. **Tips** very small; roundish.

POINT. **Seedbud** beneath. **Shafts** two; very small. **Summits** simple.

S. VESS. None. **Fruit** oblong egg-shaped; scored; divisible into two.

SEEDS. Two; oblong; egg-shaped; convex on one side and scored. Flat on the other.

OBS. Some of the florets in the center have neither Chives nor Pointals.

CARAWAY. As there is only one species known, Linnaeus Aromatic gives no description of it.—*The Leaves doubly winged.* Rundles Carui terminating. Petals white.

Carum, seu careum. Gerard. 1034. Ray's Syn. 213.

Cuminum pratense carui officinarum. Bauh. pin. 158.

In meadows and gardens. B. May—June.

Parkinson says, the young roots are better eating than Parsnips—The tender leaves may be boiled with pot herbs—The seeds are used in cakes; incruited with sugar as sweet-meats, and distilled with spirituous liquors for the sake of the flavour they afford.—The seeds were formerly recommended by Dioscorides to pale faced girls, and in more modern days their use in that case is not forgotten. They are no despicable remedy in Tertian Agues. They abound with an essential oil, which is antispasmodic and carminative.—Sheep, Goats and Swine eat it. Cows and Horses are not fond of it.

129 PARSNEP. 362 Pastinaca.

Rundle of many spokes ; flat. *Rundlets* of many spokes.
Fences none.

EMPAL. *Cup* hardly perceptible.

BLOSS. *General*, uniform. *Florets* all fertile. *Individuals* ;
 petals five ; spear-shaped ; entire ; rolled inwards.

CHIVES. *Threads* five ; hair-like. *Tips* roundish.

POINT. *Seedbud* beneath. *Shafts* two ; reflected. *Summits*
 blunt.

S. VESS. None. *Fruit* oval ; compressed and flat ; di-
 visible into two.

SEEDS. Two ; oval ; nearly flat on each side ; bound
 round with a border.

Cultivated
 Sativa

PARSNEP, with simply winged leaves.—*Little leaves ser-*
rated. Petals yellow.

Pastinaca sylvestris latifolia. Baub. pin. 155. Ray's Syn. 206.

Pastinaca latifolia sylvestris. Gerard. 1025. Park. 944.

1. There is a variety occasioned by cultivation in which the
 leaves are broader.

Pastinaca latifolia sativa.

Wild Parsnep. 1. Garden Parsnep.

Ploughed fields and gardens. B. July.

The roots when cultivated, are sweeter than Carrots and are
 much used by those who abstain from animal food in Lent :
 They are highly nutritious. In the North of Ireland they are
 brewed, instead of Malt, with Hops, and fermented with Yeast.
 The liquor thus obtained is agreeable. The seeds contain an
 essential oil ; and will often cure Intermittent Fevers.—Hogs
 are fond of the roots and quickly grow fat with them.

130 FENNEL. 364 Anethum.

Rundle of many spokes. *Rundlets* the same. *Fences* none.

EMPAL. *Cup* hardly perceptible.

BLOSS. *General* ; uniform. *Florets* all fertile. *Individuals* ;
 petals five, rolled inwards ; entire ; very short.

CHIVES. *Threads* five ; hair-like. *Tips* roundish.

POINT. *Seedbud* beneath ; *Shafts* two ; placed close to-
 gether, but not very discernible. *Summits* blunt.

S. VESS. None. *Fruit* nearly egg-shaped ; compressed ;
 scored ; divisible into two.

SEEDS. Two ; somewhat egg-shaped ; convex and scored
 on one side ; flat on the other.

FENNEL.

FENNEL. The fruit egg-shaped—*Leaves divided into numerous slender thread-shaped segments.* Petals yellow. Common Fæniculum

Fæniculum vulgare. *Park.* 884. *Gerard.* 1032. *Ray's Syn.* 217.

Fæniculum vulgare germanicum. *Baub. pin.* 147.

1. There is a variety cultivated in gardens.

Sweet Fennel

Fæniculum dulce. *Baub. pin.* 147.

Finckle. 1. Fennel.

On chalk-hills. 1. In Gardens. B. August.

The tender buds are used in fallads—The leaves are commonly presented at table as sauce to fish—The stalks are blanched in Italy for winter use—The seeds abound with an essential oil, which is carminative and diuretic, but not heating.—The Royal William or Swallow-tail Butterfly, *Papilio machaon* feeds upon it.

131 GOUTWEED. 368 Ægopodium.

Rundle of many spokes: convex: *Rundlets* the same, but flat. *Fences* none.

EMPAL. Cup hardly discernible.

BLOSS. General, uniform. Florets all fertile. Individuals; petals five; inversely egg-shaped; equal; concave; bent inwards at the point.

CHIVES. Threads five; simple; twice as long as the petals. Tips roundish.

POINT. Seedbud beneath; Shafts two; simple; upright; as long as the petals. Summits roundish.

S. VESS. None. Fruit oblong egg-shaped; scored; divisible into two.

SEEDS. Two; oblong egg-shaped; convex and scored on one side, flat on the other.

GOUTWEED. The upper stem leaves growing by threes—Gerards Podagraria
Petals white.

Podagraria vulgaris. *Park.* 943.

Angelica sylvestris minor, five erratica. *Baub pin.* 155. *Ray's Syn.* 203.

Herba Gerardi. *Gerard.* 1001.

Herb Gerard. Goutweed. Ashweed.

In orchards, gardens, and pastures. P. May.

The leaves may be eaten early in the spring with other pot-herbs.—Cows, Sheep and Goats eat it. Horses are not fond of it.

132 SMALLAGE. 367 Apium.

Rundle with few spokes. Rundlets with many.

EMPAL. General Fence none; or else of one or more leaves.

Partial Fence the same. Cup hardly perceptible.

BLOSS. General, uniform. Florets almost all fertile. Individuals; petals circular; equal; bent inwards.

CHIVES. Threads five; simple. Tips roundish.

POINT. Seedbud beneath. Shafts two; reflected. Summits blunt.

S. VESS. None. Fruit egg-shaped; scored; divisible; into two;

SEEDS. Two; egg-shaped; scored on one side, flat on the other.

OBS. In the Celery Smallage the general fence is often wanting.

Celery
Graveolens

SMALLAGE. The stem leaves wedge-shaped—Root leaves winged, Little leaves divided into three lobes, and serrated. Petals white. The spokes of the General Rundle from five to eleven. Those of the Rundlets from eleven to sixteen. Rundles sitting.

Apium palustre et officinarum. Baub. pin. 154. Ray's Syn. 214.

Apium vulgare, seu palustre. Park. 926.

Elofelinum seu paludapium. Gerard. 1014.

Ditches and marshes. B. August.

1. The Garden Celery is only a variety of the above, with no other perceptible difference than the leaves being of a darker green.

The root of the variety (1) and the lower part of the stalks bleached by covering them with earth, are very generally used raw in fallads; or boiled in soup; or stewed. They are said to be hurtful to people subject to nervous complaints. They are certainly good antiscorbutics—The root in its wild state is foetid, acrid and noxious.—The seeds yield an essential oil.—Sheep and Goats eat it. Cows are not fond of it. Horses refuse it.

133 BREAKSTONE. 366 Pimpinella.

Rundle of many spokes. Rundlets of still more. Fences none.

EMPAL. Cup not very discernible.

BLOSS. General; nearly uniform; Florets all fertile. Individuals; petals five; nearly equal; heart-shaped but bent inwards.

CHIVES. Threads five; simple; longer than the petals. Tips roundish.

POINT. Seedbud beneath. Shafts two; very short. Summits nearly globular.

S. VESS. None. Fruit oblong egg-shaped; divisible into two.

SEEDS. Two; oblong; narrow towards the point; convex and scored upon one side; flat upon the other.

BREAKSTONE. The leaves winged; the segments of the Burnet root leaves nearly circular; those of the stem leaves strap-Saxifraga shaped—*Petals white.*

Pimpinella saxifraga. Gerard. 1044.

Pimpinella saxifraga minor, foliis sanguisorbæ. Ray's Syn. 213.

Pimpinella saxifraga major altera. Bauh. pin. 159.

Pimpinella saxifraga major nostras. Park. 946.

Burnet saxifrage.

1. There is a variety that is smaller.

Pimpinella saxifraga minor. Bauh. pin. 160.

Pimpinella saxifraga hircina minor. Park. 947.

Dry gravelly soils. P. August.

Horses, Cows, Goats, Sheep and Swine eat it.

BREAKSTONE. The leaves winged; little leaves heart-Greater shaped; the odd one at the end divided into three lobes. Hud-Major son's Flor. Angl. 110.

Pimpinella saxifraga. Ray's Syn. 213.

Pimpinella saxifraga hircina major. Park. 947.

Pimpinella saxifraga major umbella candida. Bauh. pin. 159.

Bipinella, five saxifraga minor. Gerard. 1044.

Great Burnet Saxifrage.

1. There is a variety with purplish blossoms.

Pimpinella saxifraga major, umbellarubente. Bauh. pin. 159.

In woods and hedges. P. August.

All the above species and varieties of BREAKSTONE partake nearly of the same qualities. The root is very acrid, burning the mouth like pepper. It affords a blue oil. Its acrimony hath

occasioned it to be used to cure the Tooth-ache and to cleanse the skin from Freckles. It is chewed to promote the secretion of saliva, and is used in gargles for dissolving viscid mucus in the throat. In Germany it is prescribed in the Asthma and Dropsy—The Royal William Butterfly, *Papilio Machaon*, is found upon both species.

Order III. Three Pointals.

134 MEAL TREE. 370 Viburnum.

EMPAL. *Cup* with five teeth; superior: very small; permanent.

BLOSS. One petal; bell-shaped; with five shallow clefts. *Segments* blunt; reflected.

CHIVES. *Threads* five; awl-shaped; as long or twice as long as the blossom. *Tips* oblong; double.

POINT. *Seedbud* beneath: roundish. *Shaft* none, but instead thereof a turban-shaped gland. *Summits* three.

S. VESS. *Berry* roundish; one cell.

SEED. Single, roundish; hard as bone.

Pliant
Lantana

MEALTREE, with heart-shaped, serrated leaves; full of veins; and downy on the under side—*Blossoms* white; *Berries* black.

Viburnum. *Park.* 1448. *Baub. pin.* 429. *Ray's Syn.* 460.

Lantana five viburnum. *Gerard.* 1490.

Pliant Mealy-tree. Way-faring tree.

In hedges. S. May.

Varieties.

1. Leaves oval.

2. Leaves variegated.

The bark of the root is used to make bird-lime.

Marsh
Opulus

MEALTREE, with gashed leaves, and leaf-stalks beset with glands—*Blossoms* white. *Berries* red.

Opulus ruellii. *Ray's Syn.* 460.

Sambucus aquatica, flore simplici. *Paub. pin.* 456.

Sambucus palustris seu aquatica. *Park.* 208.

Sambucus aquatilis seu palustris. *Gerard.* 1424.

Water Elder.

In woods and wet hedges. S. May—June.

1. The *Guelder Rose* is a variety of this, and there is another variety with variegated leaves.

Cows, Goats and Sheep eat it. Horses are not fond of it.

135 ELDER.

135 E L D E R. 372 Sambucus.

EMPAL. *Cup* superior ; of one leaf ; very small ; with five divisions : permanent.

BLOSS. One petal ; wheel-shaped, but somewhat concave ; with five clefts ; blunt. *Segments* reflected.

CHIVES. *Threads* five ; awl shaped ; as long as the blossom. *Tips* roundish.

POINT. *Seedbud* beneath ; egg-shaped ; blunt. *Shaft* none ; but instead thereof a distended gland. *Summits* three ; blunt.

S. VESS. *Berry* roundish ; of one cell.

SEEDS. Three. Convex on one side ; angular on the other.

ELDER. The tufts of flowers with three divisions ; prop^s Dwarf leafy ; stem herbaceous—*Blossoms* white above ; purple beneath. *Ebulus* Chives white ; *Tips* purple ; one fixed on each side of every thread, so that there is properly speaking ten tips.

Sambucus humilis, seu ebulus. *Baub. pin.* 456. *Ray's Syn.* 461.

Ebulus, five sambucus humilis. *Gerard.* 1426. *Park.* 209.

Wall-wort. Dane-wort.

Hedges and road-sides. S. July.

Varieties.

1. Leaves jagged.

2. Leaves variegated.

This hath the same medical properties with the next species, but in some respects more violent, and therefore less manageable. A dram and a half of the root is a strong purge—The berries give out a violet colour—The green leaves drive away mice from granaries, and the Silesians strew them where their pigs lie, under a persuasion that they prevent some of the diseases to which they are liable.—Neither Cows, Goats, Sheep, Horses or Swine will eat it.

ELDER.

Common
Nigra

ELDER. The tufts of flowers with five divisions; stem woody—*Blossoms white. Berries black. Tips yellow; arrow-shaped; one on each thread.*

Sambucus. Gerard. 1422. vulgaris. Park. 207. Ray's Syn. 461.

Sambucus fructu in umbella nigra. Baub. pin. 456.

1. There is one variety with white berries, (viz.) the *Sambucus fructu albo. Gerard. 1422. Park. 208.*

Sambucus fructu in umbella viridi. Baub. pin. 456.

2. And another variety with jagged leaves.

Sambucus laciniato folio. Baub. pin. 456. Park. 208. Gerard. 1234.

In woods and damp hedges. (1.) in several parts of Staffordshire. S. April—May.

Cultivation produces the following variations;

3. Berries green.

4. Leaves cut and jagged.

5. Leaves striped with white.

6. Leaves spotted with white.

7. Leaves striped with yellow.

The whole plant hath a narcotic smell; it is not well to sleep under its shade—The *Wood* is hard, tough, and yellow. It is commonly made into skewers for butchers; tops for angling rods, and needles for weaving nets. It is not a bad wood to turn in the lathe—The inner green *Bark* is purgative, and may be used with advantage where acrid purgatives are requisite. In smaller doses it is diuretic, and hath done eminent service in obstinate glandular obstructions, and in dropfies. If Sheep that have the rot are placed in a situation where they can get at the bark and the young shoots, they will soon cure themselves—The *Leaves* are purgative like the bark, but more nauseous. They are an ingredient in several cooling ointments. If turnips, cabbages, fruit-trees, or corn (which are subject to blights, from a variety of insects), are whipped with the green leaves and branches of Elder, the insects will not attack them. *Philos. Transf. v. 62. p. 348.* A decoction of the *Flowers*, taken internally, is said to promote expectoration in pleurifies. If the flowers are fresh gathered they loosen the belly. Externally they are used in fomentations to ease pain and abate inflammation. Many people use the flowers to give a flavour to vinegar—A rob prepared from the *Berries* is a gentle opener, and promotes perspiration. The juice of the berries is employed to give a red colour to raisin or sugar wines. The berries are poisonous to poultry—The *Pith* being exceedingly light, is cut into balls, which are much used in many nice electrical experiments—Sheep eat it. Horses, Cows and Goats refuse it. The flowers kill Turkeys. The Elder Louse, *Aphis Sambuci*, and the Swallow-Tail Butter Fly, *Phalæna Sambucaria*, are found upon this species.

136 BLADDERNUT. 374 Staphylæa.

EMPAL. Cup with five divisions; concave; roundish; coloured; nearly as large as the blossom.

BLOSS. Petals five; oblong; upright; resembling the cup. Honey-cup concave, distended; situated at the bottom of the flower, upon the receptacle.

CHIVES. Threads five; oblong; upright; as long as the cup. Tips simple.

POINT. Seedbud rather thick, with three divisions. Shafts three; simple; somewhat longer than the chives. Summits blunt, contiguous.

S.VESS. Capsules three; bladder-shaped; limber; joined by a seam lengthways; tapering at the points; opening inwardly.

SEEDS. Two; hard as bone; somewhat globular; obliquely tapering; with a circular hole at the side, near the point.

Obs. In the British species there are but two divisions in the pointal and in the capsule.

BLADDERNUT with winged leaves—*Blossoms in whorls; Tree white.* Pinnata

Staphylodendron. Ray's Syn. 468.

Nux vesicaria. Park. 1417. Gerard. 1437.

Pistacea sylvestris. Baub. pin. 401.

In hedges near Pontefract, Yorkshire. S. June.

137 CHICKWEED. 380 Alfine.

EMPAL. Cup with five leaves; concave; oblong; tapering.

BLOSS. Petals five; equal; longer than the cup.

CHIVES. Threads five; hair-like. Tips roundish.

POINT. Seedbud nearly egg-shaped. Shafts three; thread-shaped. Summits blunt.

S.VESS. Capsule egg-shaped; of one cell; covered by the cup.

SEEDS. Numerous, roundish.

Obs. In the Common Chickweed, the chives soon fall off, so that it is not unusual to find flowers with fewer than five chives.

CHICKWEED.

Common
Media

CHICKWEED with divided petals; and leaves betwixt egg and heart-shaped—*Flowers upright, and open from nine in the morning to noon; but if it rains that day they do not open. After rain they become pendant, but in the course of a few days rise again. The Capsule opens with six valves, letting fall the seeds; which are round; compressed; yellow; and rough with little tubercles. Blossoms white.*

This species is a notable instance of what is called the *Sleep of Plants*; for every night the leaves approach in pairs, so as to include within their upper surfaces, the tender rudiments of the new shoots; and the uppermost pair but one at the end of the stalk, are furnished with longer leaf-stalks than the others, so that they can close upon the terminating pair and protect the end of the branch.

Alpine media. Baub. pin. 250. seu minor. Gerard. 611.

Alpine vulgaris seu morsus gallinæ. Ray's Syn. 347.

In rich cultivated ground; very common. A. April—October.

The young shoots and leaves when boiled, can hardly be distinguished from Spring Spinach, and are equally wholesome.—Swine are extremely fond of it; Cows and Horses eat it; Sheep are indifferent to it, and Goats refuse it. Small Birds eat the seeds.

The Cream Spot Tyger Moth, *Phalæna Villica*, is found upon it.

Order IV. Four Pointals.

138 PARNASSUS. 384 Parnassia.

EMPAL. *Cup* with five divisions; permanent. *Segments* oblong; sharp; expanding.

BLOSS. *Petals* five; nearly circular; scored; concave, expanding: margins imperfect. *Honey-cups* five; each being a concave heart-shaped substance, furnished with thirteen little shafts or pillars set along the edge; and each pillar terminated by a little globe.

CHIVES. *Threads* five; awl-shaped; as long as the petals. *Tips* depressed; fixed side-ways to the threads.

POINT. *Seedbud* egg-shaped; large. *Shafts* none; but instead thereof an open hole. *Summits* four; blunt; permanent: growing larger as the seed ripens.

S.VESS. *Capsule* egg-shaped; with four angles; one cell and four valves. *Receptacle* in four parts; connected with the valves.

SEEDS. Numerous; oblong.

OBS. *The essential character of this genus is strongly marked by the honey-cups.*

PARNASSUS.

PARNASSUS. As there is only one species known Linnæus Meadow gives no description of it—*The root leaves heart-shaped; on long leaf-stalks. Stem leaves sitting. Whilst it is in flower, the seedbud having neither shaft nor summit, is open at the top. The chives lay their tips alternately upon the hole, and having discharged their dust, return back to the petals. The Petals are white, with remarkable yellow streaks; and the peculiar appearance of the honey-cups is as beautiful as it is uncommon.*

Parnassia vulgaris et palustris. Ray's Syn. 355.

Gramen Parnassii minus. Gerard. 840.

Gramen Parnassii vulgare. Park. 429.

Gramen Parnassii flore albo simplici. Bauh. pin. 309.

Grass of Parnassus.

In moist meadows. P. July—August.

Horses and Goats eat it. Sheep are not fond of it. Cows and Swine refuse it.

Order V. Five Pointals.

139 F L A X. 389 Linum.

EMPAL. *Cup of five leaves; small; spear-shaped; upright; permanent.*

BLOSS. *Funnel-shaped. Petals five; oblong; large; blunt; gradually expanding and growing broader upwards.*

CHIVES *Threads five; awl-shaped; upright; as long as the cup; alternating with these are the rudiments of five more. Tips simple; arrow-shaped.*

POINT. *Seedbud egg-shaped. Shafts five; thread-shaped; upright; as long as the chives. Summits simple; reflected.*

S.VESS. *Capsule globular; with five imperfect angles; ten cells and five valves.*

SEEDS. *Solitary: flattish egg shaped, tapering; glossy.*

OBS. *In the Little Flax one fifth in the number of parts is wanting.*

FLAX. *The cups and capsules furnished with sharp points; Common? petals scolloped; leaves alternate; spear-shaped. Stem solitary Usitatissimum—The inner edges of the cup a little fringed. Blossoms pale blue.*

Linum arvense. Bauh. pin. 214.

Linum sylvestre vulgatius. Park. 1334.

Linum sativum. Gerard. 556. Ray's Syn. 262.

In cornfields. A. July.

This

This valuable plant originally came from those parts of Ægypt that are exposed to the inundations of the Nile. It would require a volume to recite its uses; the limits of this work will only permit me to mention a few of them. The *Seeds* yield by expression only, a large proportion of oil, which is an excellent pectoral, as is likewise the mucilaginous infusion. They make an easy and useful poultice in cases of external inflammation; and they are the food of several small Birds. After the oil is expressed the remaining farinaceous part called Oil-Cake, is given to Oxen who soon grow fat upon it. The *Oil* itself differs in several respects from other expressed oils; it does not congeal in winter, nor does it form a solid soap with fixed alkaline salts; and it acts more powerfully as a menstruum upon sulphureous bodies. When heat is applied during the expression it gets a yellowish colour, and a peculiar smell. In this state it is used by the painters and the varnishers—The fibres of the *Stem* are manufactured into linen; and this linen when worn to rags, is made into paper.

Perennial
Perenne

FLAX. The cups and capsules blunt; leaves alternate; spear shaped; very entire—*Blossoms blue*.

Linum sylvestre cæruleum perenne erectius, flore et capitulo majore. Ray's Syn. 362.

1. There is a variety which is smaller, viz. the lesser trailing perennial Flax.

Linum sylvestre cæruleum perenne procumbens, flore et capitulo minore. Ray's Syn. 362.

Perennial blue Flax.

In barren soil. P. June,

Wild
Tenuifolium

FLAX. The cups furnished with a sharp point. Leaves scattered; betwixt strap and bristle-shaped; rough with points turned backwards—*Blossoms blue, or reddish; with purple streaks*.

Linum sylvestre angustifolium, floribus dilute purpurascentibus vel carneis. Baub. pin. 214. Ray's Syn. 362.

Narrow-leaved wild Flax.

On the sea coast. P. June—July.

Purging
Catharticum

FLAX. The leaves opposite; betwixt egg and spear-shaped; stem forked, blossoms sharp—*Before the flowers opens they hang down. Blossoms white*.

Linum sylvestre catharticum. Gerard. 560. Ray's Syn. 362.

Linum pratense flosculis exiguis. Baub. pin. 214.

Chamælinum clusii flore albo, seu linum sylvestre catharticum. Park. 1336.

In dry pastures. A. May—June.

An infusion of two drams of the dried plant is an excellent purge.—Horses, Sheep and Goats eat it.

FLAX.

FLAX. The leaves opposite: stem forked. Blossoms with Little
four chives and four pointals—*White.* Radiola

Radiola vulgaris serpyllifolia. *Ray's Syn.* 345. Tab. 15. fig. 3.

Millegrana minima. *Gerard.* 569. five herniaria minor.
Park. 447.

Polygonum minimum feu millegrana minima. *Baub.* pin. 282.

Least Rupture Wort, or Allseed.

Wet gravelly soil. A. August.

140 SUNDEW. 391 Drosera

EMPAL. Cup one leaf; with five clefts; sharp; upright;
permanent.

BLOSS. Funnel-shaped. Petals five; nearly egg-shaped;
blunt, somewhat larger than the cup.

CHIVES. Threads five; awl-shaped; as long as the cup.
Tips small.

POINT. Seedbud roundish. Shafts five; simple; as long
as the chives. Summits simple.

S.VESS. Capsule nearly egg-shaped; of one cell, opening
with five valves at the top.

SEEDS. Numerous; very small; nearly egg-shaped.

SUNDEW. The stalk springing directly from the root; leaves Round-leaved
circular.—*Leaf-stalks fringed at the base.* Blossoms white. Rotundifolia

Ros solis folio rotundo. *Baub.* pin. 357. *Ray's Syn.* 356.

Ros solis major. *Gerard.* 1557. *Park.* 1052.

Rosa solis. Red Rot.

In mossy bogs. P. July—August.

The whole plant is acrid, and sufficiently caustic to erode the
skin; but some ladies know how to mix the juice with
milk, so as to make it an innocent and safe application to remove
freckles and sunburn. The juice that exsudes from it unmixed,
will destroy warts and corns—The plant hath the same effect
upon milk as the common *Butterwort* hath; and like that too is
supposed to occasion the rot in Sheep. Query, is not the sour
coagulated milk of the Syrians, called *Leban*, or *Leven*, at first
prepared with some plant of this kind? See *Russel's Nat. Hist.*
of Aleppo.

SUNDEW. The stalk springing directly from the root. Long-leaved
Leaves oblong—*Blossoms white.* This species differs from the pre- Longifolia
ceding only in the shape of the leaves.

Ros solis folio oblongo. *Baub.* pin. 357. *Ray's Syn.* 356.

Ros solis sylvestris longifolius. *Park.* 1052.

Ros solis minor. *Gerard.* 1557.

In mossy bogs. P. July—August.

Its

Its properties are the same as in the preceding species. The Generic name, SUNDEW, seems to be derived from a very striking circumstance in the appearance of these plants; the leaves are fringed with hairs, supporting small drops or globules of a pellucid liquor like dew, which continue even in the hottest part of the day, and in the fullest exposure to the sun. Perhaps the acrimony of the plant resides in this secreted liquor.

141 SIBBALD. 393 Sibbaldia.

EMPAL. Cup one leaf; with ten shallow clefts; upright at the base: permanent. Segments alternately narrower; half spear-shaped; equal; expanding.

BLOSS. Petals five; egg-shaped; standing on the cup.

CHIVES. Threads five; hair-like; shorter than the petals; standing on the cup. Tips small; blunt.

POINT. Seedbuds five; egg-shaped; very short. Shafts as long as the chives and standing upon the sides of the seedbuds. Summits somewhat globular.

S.VESS. None. The Cup closes upon the seeds.

SEEDS. Five; rather long.

Cinquefoil
Procumbens

SIBBALD. The little leaves with three teeth—*Blossoms yellow.*

Pentaphylloides pumila foliis ternis, ad extremitates trifidis.
Ray's Syn. 256.

Bastard Cinquefoil.

On Benlomond, a mountain on the borders of Lochlomond in Scotland. P. July—August.

142 THRIFT. 388 Statice.

EMPAL. Common Cup different in different species.

Cup one leaf; funnel-shaped. Tube narrow. Border entire; plaited; skinny.

BLOSS. Funnel-shaped. Petals five; narrow at the base; broader upwards; blunt; expanding.

CHIVES. Threads five; awl-shaped; shorter than the blossom and fixed to the claws of the petals. Tips fixed side-ways to the threads.

POINT. Seedbud extremely small. Shafts five; thread-shaped; distant. Summits sharp.

S.VESS. None. The tube of the cup closes and contains the seed; but the border continues expanded.

SEED. Single; very small; roundish; crowned with the cup.

THRIFT.

THRIFT. The flowers forming a head upon a simple stalk. Sea
Leaves strap-shaped—*Blossoms pink.* Armeria

Statice montana minor. Ray's Syn. 203.

Caryophyllus montanus minor. Baub. pin. 211.

Caryophyllus marinus minimus lobelii. Gerard. 602.

Gramen marinum minus. Park. 1276.

Sea Gilliflower. Sea Cushion.

On the sea coast. P. June.

It is now very generally introduced into gardens, as an edging for borders.—Horses and Goats eat it. Sheep are not fond of it.

THRIFT. The stalk cylindrical, supporting a panicle. Lavender
Leaves smooth; without strings; but with sharp points on the Limonium
under side—*Blossoms blue.*

Limonium. Gerard. 411. Ray's Syn. 201.

Limonium majus vulgatus. Park. 1234.

Limonium maritimum majus. Baub. pin. 192.

Sea Lavender.

Sea coast. P. July—August.

Sheep and Goats eat it.

THRIFT. The stalk bearing the panicle, trailing. The Matted
barren branches naked and bent backwards. Leaves wedge-Reticulata
shaped; without any sharp points.—

Matted Sea Lavender.

Sea coast. September.

Order VI. Many Pointals.

143 MOUSETAIL. 394 Myofurus.

EMPAL. Cup five leaves; half spear-shaped; blunt, reflected; coloured; deciduous; joined together above the base.

BLOSS. Petals five; very small; shorter than the cup; tubular at the base; opening obliquely inwards.

CHIVES. Threads five (or more); as long as the cup. Tips oblong; upright.

POINT. Seedbuds numerous; sitting upon the receptacle in an oblong conical figure. Shafts none. Summits simple.

S. VESS. None. Receptacle very long, shaped like a pillar; containing the seeds which are layed one over another like tiles, and are covered.

SEEDS. Numerous; oblong; tapering.

OBS. The number of chives varies greatly in this genus. It is nearly allied to the Crowfoot: the Petals are a sort of Honey-cup.

Little
Minimus

MOUSETAIL. As there is only one species known Linnaeus gives no description of it—*The Stem simple. Root-leaves narrow; strap-shaped. Blossoms greenish.*

Myosurus: Ray's Syn. 251.

Holosteio affinis cauda muris: Bauh. pin. 190.

Holosteum loniceri; cauda muris vocatum. Park. 500.

Cauda muris. Gerard. 426.

Gravelly meadows. A. April—May.

The whole plant is acrid.

CLASS VI.

SIX CHIVES.

TH E flowers of this class contain six chives all of the *same length*, whereas in the 15th class the chives though six in number are *unequal in length*, four of them being long and two of them short.

The BULBOUS ROOTS in this class are some of them noxious, as those of the DAFFODIL, the HYACINTH and the FRITILLARY; others are corrosive, as GARLIC; but by roasting or boiling they lose a great part of their acrimony.

C L A S S VI.

S I X C H I V E S.

ORDER I. ONE POINTAL.

* *Flowers with a cup and a blossom.*

144. **F**RANKWORT. Blossom five petals. Cup one leaf; beneath. Capsule one cell, with many seeds.

145. BARBERRY. - Blossom six petals. Cup six leaves; beneath. Berry with two seeds.

† *Six-chined Grasspoly.** * *Flowers with a sheath, or husk.*

146. DAFFODIL. - - Blossom superior. Petals six. Honey-cup, bell-shaped; on the outside of the chives.

147. GARLIC. - - Blossom beneath. Petals six, egg-shaped; fitting.

148. BELLWORT. - - Blossom beneath; with six clefts. Berry with three seeds.

149. HYACINTH. - - Blossom beneath; with six clefts. Three honey-cup pores at the top of the seedbud.

150. ASPHODEL. - - Blossom beneath; with six flat petals.

151. BETHLEMSTAR. - - Blossom beneath; with six petals. Threads alternately broader at the base.

150. SQUILL.

152. SQUILL. - - - Blossom beneath. Petals six; deciduous. Threads cylindrical; of equal thickness.
153. SPARAGUS. - - - Blossom beneath. Petals six. Berry with six seeds.
154. FRITILLARY. - - - Blossom beneath. Petals six; egg-shaped; with a Honey-cup pore at the base.

† *Rush.*

*** *Flowers imperfect.*

155. SPICEWORT. - - - Sheath containing several flowers. Capsule with three cells.
156. RUSH. - - - - Cup six leaves. Capsule with one cell.
157. PURSLAIN. - - - Cup with twelve clefts. Capsule, with two cells.

Order II. Two Pointals.

† *Round-leaved Dock.*

† *Pepper, and Spotted Snakeweed.*

Order III. Three Pointals.

158. TUBEROOT. - - - Empalement a sheath. Blossom with six divisions resembling petals.
159. ARROWGRASS. - - Cup three leaves. Blossom three petals. Capsule opening at the base.
160. DOCK. - - - - Cup three leaves. Blossom three petals. Seed single; three cornered.

† *Fenced Asphodel.*

Order IV. Many Pointals.

161. WATERPLANTAIN. Cup three leaves- Blossom three petals. Seed-vessels many.

144 FRANKWORT. 445 Frankenia.

EMPAL. *Cup* one leaf; funnel-shaped; ten cornered; permanent. *Rim* with five sharp teeth; standing out.

BLOSS. *Petals* five; the *Claws* as long as the cup. *Border* flat: limbs nearly round and expanding. *Honeycup* a channelled tapering claw, fixed to each claw of the petals.

CHIVES. *Threads* six; as long as the cup. *Tips* roundish; double.

POINT. *Seedbud* oblong, *Shaft* simple; as long as the chives. *Summit* divided into six segments.

S. VESS. *Capsule* oval; of one cell and three valves.

SEEDS. Many; egg-shaped; small.

Smooth
Lævis

FRANKWORT. The leaves strap-shaped; crowded; fringed at the base—*Stems* numerous; branched; trailing. Blossoms purple.

Lychnis supina maritima ericæ facie. Ray's Syn. 338.

Erica supina maritima. Park. 1484.

Polygonum maritimum minus, foliolis serpylli. Baub pin. 281.

Polygonum pusillo vermiculato serpylli folio. Gerard. 567.

Smooth sea heath.

Marshes on the sea-coast. P. August.

Mealy
Pulverulenta

FRANKWORT. The leaves inversely egg-shaped; dented at the end; dusty on the under side—

Alfine maritima supina, foliis chamæfices. Ray's Syn. 352.

Anthyllis maritima chamæficæ similis. Baub. pin. 282.

Broad-leaved sea heath.

Sea coast. A. July.

145 BARBERRY. 442 Berberis.

EMPAL. *Cup* of six leaves; standing wide. *Leaves* egg-shaped, narrowest at the base; concave; coloured; deciduous: alternately smaller.

BLOSS. *Petals* six; roundish, concave; not quite upright; scarcely larger than the cup. *Honeycups* two roundish coloured substances, growing to the base of each petal.

CHIVES. *Threads* six; upright; compressed; blunt. *Tips* two; adhering to each side of the thread, at the end.

POINT. *Sedbud* cylindrical; as long as the chives. *Shaft* none. *Summit* round and flat; broader than the feedbud, encompassed by a sharp border.

S.VESS. *Berry* cylindrical; blunt; dimpled, with one cell.

SEEDS. Two; oblong; cylindrical; blunt.

BARBERRY. The fruit-stalks supporting bunches of flow- Common
ers—*In searching for the honey-cup at the base of the petals when the* Vulgaris
flower is fully expanded, if you happen to touch the threads tho' ever
so slightly, the tips burst and throw out the dust with a considerable
expansive force. The Leaves change into thorns. Blossom yellow;
sometimes streaked with orange. Berries red.

Berberis dumetorum. Bauh pin. 454. Ray's Syn. 465.

Berberis. Park. 1559.

Spina acida five oxyacantha. Gerard. 1325.

1. There is one variety with white berries;

2. And another in which the berries have no seeds.

Pipperidge bush.

Woods and hedges. S. June.

The leaves are gratefully acid. The flowers are offensive to the smell when near, but at a proper distance their odour is extremely fine. The berries are so very acid that birds will not eat them, but boiled with sugar they form a most agreeable rob or jelly. They are used likewise as a dry sweetmeat and in sugar-plumbs. An Infusion of the Bark in white wine is purgative. The roots boiled in lye dye wool yellow. In Poland they dye Leather of a most beautiful yellow with the Bark of the root. The inner Bark of the stems dyes linnen of a fine yellow, with the assistance of Alum. This shrub should never be permitted to grow in corn lands, for the ears of wheat that grow near it never fill, and its influence in this respect has been known to extend as far as three or four hundred yards across a field.

Cows, Sheep, and Goats eat it; Horses and Swine refuse it.

146 DAFFODIL. *Narcissus* 403.

EMPAL. *Sheath* oblong; blunt; compressed; opening upon the flat side: shrivelling.

BLOSS. *Petals* six; egg-shaped; tapering; flat; fixed outwardly above the base of the tube of the honeycup. *Honey-cup*, one leaf; funnel-shaped, but rather cylindrical; with a coloured border.

CHIVES. *Threads* six; awl-shaped; fixed to the tube of the honeycup, but shorter than the honeycup. *Tips* rather long.

POINT. *Seedbud* beneath: roundish; with three blunt corners. *Shaft* thread-shaped; longer than the chives. *Summit* with three clefts; concave; blunt.

S.VESS. *Capsule* roundish; bluntly three cornered; with three cells and three valves.

SEEDS. Numerous; globular; with little appendages.

Pale
Poeticus

DAFFODIL. The sheath with only one flower. Honeycup wheel-shaped; very short; skinny; somewhat scolloped—*Blossom pale yellow.*

Narcissus medio luteus. Gerard. 124. vulgaris. Park. 74. Ray's Syn. 371.

Narcissus pallidus circulo luteo. Bauh. pin. 51.

Primrose peerless.

In meadows, not common. P. April.

Wild
Pseudo-
Narcissus

DAFFODIL. The sheath with only one flower. Honeycup bell-shaped; upright; curled; as long as the petals, which are egg-shaped—*And pale yellow.*

Narcissus sylvestris pallidus, calyce luteo. Bauh. pin. 52. Ray's Syn. 371.

Pseudo-Narcissus anglicus Gerard. 138. vulgaris. Park. 74.

Woods and hedges. P. March—April.

The dust in the microscope appears kidney-shaped. The fresh roots are acrid.

147 GARLIC. Allium. 4C9

EMPAL. *Sheath* common to several flowers; roundish; shrivelling.

BLOSS. *Petals* six; oblong.

CHIVES. *Threads* six; awl-shaped; generally as long as the blossom. *Tips* oblong; upright.

POINT. *Seedbud* superior: short; somewhat three cornered; the corners marked by a line. *Shaft* simple. *Summit* sharp.

S.VESS. *Capsule* very short; broad; of three lobes, three cells and three valves.

SEEDS. Many; roundish.

OBS. *In some species every other chive alternately is broad, and the tip is fixed in a fork at the end of the thread.*

* *Stem leaves flat. Rundles bearing capsules.*

GARLIC. The stem with flat leaves. Rundle globular; Round-headed chives three pointed; petals rough upon the back, which is Ampelopra. somewhat keel-shaped—*Chives a little longer than the blossom.* Blossoms pale purple. *Lateral root solid.*

Allium holmense sphærico capite. Ray's Syn. 370.

Allium sphærico capite, folio latiore seu scorodoprasum alterum. Baub pin. 74

Scorodoprasum primum clusii. Gerard. 180.

In the island of Holms at the mouth of the Severn. P.

This is eaten along with other pot-herbs. It communicates its flavour to the milk and butter of cows that graze where it grows.

** *Stem leaves flat; rundles bearing bulbs.*

GARLIC. The stem with flat leaves, and bulbs. Sheath of Broad-leaved the leaves cylindrical; sheath of the flower without any sharp Arenarium point; chives with three points—*Bulbs and Blossoms blue.* Chives a little longer than the blossom. Leaves narrow, entire at the edges.

Allium sylvestre amphycarpon, foliis porraceis, floribus et nucleis purpureis. Ray's Syn. 370.

Broad-leaved mountain Garlic.

On mountains in the north. P. July.

*** STEM

* * * Stem leaves nearly cylindrical. Rundle bearing Bulbs.

Crow
Vineale

GARLIC. The stem with cylindrical leaves, and bulbs. Chives three pointed—*Blossoms small, violet coloured. Two long bristles from the chives project out of the blossoms.*

Allium sylvestre. Park. 870. Gerard. 179. Ray's Syn. 369.

Allium campestre juncifolium capitatum purpurascens majus. Baub. pin. 74.

Allium sylvestre vinearum. Baub. pin. 72.

In pastures. P. June.

The young shoots are eaten in fallads, or boiled as a pot-herb.

Wild
Oleraceum

GARLIC. The stem with cylindrical leaves, and bulbs. Leaves rough; semi-cylindrical furrowed on the under side. Chives simple—*Root a solid bulb. Stem two or three feet high; upright, or only a little bent towards the top; smooth; not scored; solid. Bulbs egg-shaped, forming a roundish knob; from betwixt these arise several thread shaped fruit-stalks, each supporting a single flower which is nodding; cylindrical, but somewhat bell-shaped, very minute white dots hardly visible to the naked eye, are scattered over the surface of the whole plant. Blossom whitish green, with three dark purple streaks on each petal.*

Allium sylvestre bicornne, flore exherbaceo albicante, cum triplici in singulis petalis stria atro-purpurea. Ray's Syn. 370.

Allium montanum bicornne, flore ex-albido. Baub. pin. 75.

Wild Garlic, with an herbaceous striated flower.

Cornfields and pastures. P. July.

The tender leaves are very commonly boiled in soups, or fried with other herbs.—Cows, Goats, Sheep and Swine eat it.

* * * * Leaves growing from the roots. Stalk naked.

Ramson
Ursinum

GARLIC with naked, semi-cylindrical stalks. Leaves spear-shaped; on leaf stalks. Rundle flat at the top—*Leaves as long as the stalk. Threads fixed to the claws of the petals; shorter than the shaft. Blossoms white.*

Allium sylvestre latifolium. Baub. pin. 74. Ray's Syn. 370.

Allium ursinum. Gerard. 180. Park. 871.

In woods and hedges. P. May.

An infusion of this plant in brandy is esteemed a good remedy for the gravel. Pennant's Tour. 1772, p. 175, other plants that grow near it will not flourish.—Cows eat it; but it communicates its flavour to the milk.

148 BELLWORT. 425 Convallaria.

EMPAL. Cup none.

BLOSS. One petal; bell-shaped; glossy. Border with six clefts: Segments blunt; expanding and reflected.

CHIVES. Threads six; awl-shaped; standing on the petal; shorter than the blossom. Tips oblong; upright.

POINT. Seedbud globular. Shaft, thread-shaped; longer than the chives. Summit blunt; three cornered.

S. VESS. Berry globular; with three cells, spotted before it is ripe.

SEED. Solitary; roundish.

BELLWORT with a naked stalk, and bell-shaped blossoms— Lilly white; sometimes red; or purple and white by cultivation, which Majalis will likewise make the blossoms double.

Lilium convallium. Gerard. 410. Ray's Syn. 265.

Lilium convallium album. Baub. pin. 304.

Lilium convallium flore albo. Park. 349.

Lilly of the Valley. May—Lily.

Woods and heaths. P. May.

The flowers though fragrant when fresh, have a narcotic smell when dry. Reduced to powder they excite sneezing. An extract prepared from the flowers or from the roots partakes of the bitterness as well as of the purgative properties of aloes. The dose from twenty to thirty grains. A beautiful and durable green colour may be prepared from the leaves by the assistance of lime. Sheep and Goats eat it. Horses, Cows and Swine refuse it.

BELLWORT with funnel-shaped blossoms, and alternate Odoriferous leaves, embracing the stem. Stem two edged: fruit-stalks at the Polygonatum base of the leaves; seldom supporting more than one flower— from a span to a foot high. Blossoms white. By cultivation the blossoms will become double and the stalks purple.

Polygonatum floribus ex singularibus pediculis. Ray's Syn. 263.

Polygonatum latifolium flore majore odore. Baub. pin. 303.

Polygonatum majus flore majore. Park. 696.

Polygonatum latifolium 2. Clusii. Gerard. 904.

Sweet smelling Solomon's Seal.

In fissures of rocks in Yorkshire. P. May—June.

The roots are very nutritious, and the young shoots are eaten at Constantinople as Sparagus.—Sheep and Goats eat it. Horses, Cows and Swine refuse it.

Solomons
Multiflora

BELLWORT with funnel-shaped blossoms, and alternate leaves, embracing the stem. Stem cylindrical. Fruit-stalks at the base of the leaves supporting many flowers—*Blossoms white.*

Polygonatum. Gerard. 903. Ray's Syn. 263.

Polygonatum vulgare. Park. 696.

Polygonatum latifolium vulgare. Baub. pin. 303.

1. By cultivation the leaves are sometimes striped.

Solomon's Seal.

In woods. P. May—June.

The roots and the young shoots are nutritious.—Cows, Goats and Sheep eat it.

149 HYACINTH. 427 Hyacinthus.

EMPAL. Cup none.

BLOSS. One petal; bell-shaped. Border with six clefts; reflected. *Honey-cups*; three pores filled with honey, at the point of the seedbud.

CHIVES. Threads six; awl-shaped; rather short. Tips approaching.

POINT. Seedbud roundish; but with three edges, and three furrows. Shaft simple; shorter than the blossom. Summit blunt.

S.VESS. Capsule nearly round, but with three corners, three cells and three valves.

SEEDS. Two (for the most part), roundish.

Harebell
Non-scriptus

HYACINTH. Blossoms bell-shaped with six divisions, rolled back at the ends—*Floral Leaves two, and generally longer than the blossoms.* Segments of the petal rolled back. Summit moist. Blossoms blue; sometimes white.

Hyacinthus oblongo flore cæruleus major. Baub. pin. 43.

Hyacinthus Anglicus. Gerard. 110. Ray's Syn. 373.

Hyacinthus Anglicus, belgicus seu Hispanicus. Park. 122.

English Hyacinth or Harebells.

Woods and hedges. P. May.

The fresh roots are poisonous. they may be converted into starch.—It furnishes food for the Wood Tyger Moth, *Phalæna Lantaginis.*

150 ASPHODEL. 422 Anthericum.

EMPAL. Cup none.

BLOSS. Petals six; oblong; blunt; greatly expanded.

CHIVES. Threads six; awl-shaped; upright. Tips small; with four furrows; fixed side-ways to the threads.

POINT. Seedbud with three corners, but slightly marked. Shaft simple; as long as the chives. Summit blunt; three cornered.

S. VESS. Capsule egg-shaped; smooth; with three furrows; three cells and three valves.

SEEDS. Numerous; angular.

OBS. The Fenced Asphodel hath a Cup with three teeth, and three distinct Summits without any shaft. In the Bastard Asphodel the petals stand upright and are betwixt strap and spear-shaped. The Threads are woolly; the Seeds spindle-shaped; and the Shaft very short.

ASPHODEL. The leaves nearly flat; stalk supporting a single flower—furnished with three or four floral leaves; spear-shaped, alternate, sheathing. Blossom beneath; white on the inside; pale red without. Saffron Serotinum

Bulbocodium alpinum juncifolium, flore unico; intus albo, extus squalide rubente. Ray's Syn. 374. Tab. 17. fig. 1.

Pseudo narcissus gramineo folio. Baub. pin. 51.

Bulbocodium serotinum. Hudson. 122.

Mountain Saffron.

On Snowdon and other high mountains in Wales. P. August.

ASPHODEL. The leaves sword shaped; threads woolly—The flowers appear very remarkable from the woolly threads. Blossoms greenish. Bastard Oslifragum

Phalangium Anglicum palustre iridis folio. Ray's Syn. 375.

Asphodelus Lancastriæ verus. Gerard. 97.

Pseudo-Asphodelus palustris Anglicus. Baub. pin. 29.

Bastard or Lancashire Asphodel.

In turf bogs. P. August.

This plant is supposed to soften the bones of animals that eat it, but this opinion wants confirmation.—Cows and Horses eat it. Sheep and Swine refuse it.

ASPHODEL.

Fenced
Calyculatum

ASPHODEL. The leaves sword-shaped; cup with three lobes. Threads not woolly. Flowers with three summits—*Blossoms greenish.*

Phalangium Scoticum palustre minimum, iridis folio. *Ray's Syn.* 375.

Pseudo-Asphodelus alpinum. *Bauh. pin.* 29.

Scottish Asphodel.

In marshes. P. September.

Sheep and Goats refuse it.

151 BETHLEMSTAR. 418 Ornithogalum.

EMPAL. *Cup* none.

BLOSS. *Petals* six; spear-shaped; upright below the middle, but expanding and flat above; permanent, but fading.

CHIVES. *Threads* six; upright; broadest at the base; shorter than the blossom. *Tips* simple.

POINT. *Seedbud* angular. *Shaft* awl-shaped; permanent. *Summit* blunt.

S.VESS. *Capsule* roundish, angular; with three cells and three valves.

SEEDS. Many; roundish.

OBS. *The Threads in some species are upright and flat; every other thread having three points and the Tip fixed upon the middle point.*

Yellow
Luteum

BETHLEMSTAR. The stalk angular; with two leaves. Fruit-stalks forming simple rundles—*Blossoms green on the outside, but yellow within.*

Ornithogalum luteum. *Bauh. pin.* 71. *Park.* 140. *Ray's Syn.* 372.

Ornithogalum luteum seu cepe agraria. *Gerard.* 165.

In the northern counties. P. April—May.

The bulbous roots of all the species are nutritious and wholesome.—Horses, Goats and Sheep eat it. Swine are not fond of it. Cows refuse it.

BETHLEMSTAR.

BETHLEMSTAR. The bunch of flowers very long. Spiked Threads spear-shaped. Fruit-stalks equal; expanding when in Pyrenaicum flower, but afterwards approaching the stalk—*Blossoms greenish and streaked on the outside; white within.*

Ornithogalum angustifolium majus, floribus ex albo virescentibus. *Baub. pin. 70. Ray's Syn. 373.*

Asphodelus bulbosus. *Gerard. 97.*

Asphodelus bulbosus galeni, five Ornithogalum majus flore subvirente. *Park. 136.*

Spiked Star of Bethlem with a greenish flower.

In meadows. P. May.

BETHLEMSTAR. The flowers in broad-topped spikes; Common fruit-stalks taller than the stalk. Chives notched at the end—Umbellatum *Blossoms white; with a green ribon on the outside.*

Ornithogalum umbellatum medium angustifolium. *Baub. pin. 70.*

Ornithogalum vulgare et verius, majus et minus. *Ray's Syn. 372.*

Ornithogalum vulgare. *Gerard. 165. Park. 136.*

In woods and pastures. P. May.

152 SQUILL. 419 Scilla.

EMPAL. Cup none.

BLOSS. Petals six; egg-shaped; greatly expanding; deciduous.

CHIVES. Threads six; awl-shaped; half as long as the petals. Tips oblong; fixed sideways to the threads.

POINT. Seedbud roundish. Shaft simple, as long as the chives; falling off. Summit simple.

S.VESS. Capsule nearly egg-shaped; smooth; with three furrows, three cells, and three valves.

SEEDS. Several; roundish.

SQUILL. With few flowers, and those nearly upright—Vernal Flowers generally four, and all of a height. Root solid. Blossoms Bifolia blue.

Hyacinthus stellaris bifolius germanicus. *Baub. pin. 45.*

Hyacinthus stellatus fuchsi. *Gerard. 105. Ray's Syn. 372.*

Hyacinthus stellatus vulgaris, seu bifolius fuchsi. *Park. 126.*

Vernal Star Hyacinth.

Sea-coast. P. May.

SQUILL

Autumnal
Autumnalis

SQUILL. Leaves betwixt thread and strap-shaped. Flowers in broad topped spikes. Fruit-stalks naked; ascending; as long as the flowers—*The Blossom is as large as a Pea, and as long as the fruit-stalk: blue.*

Hyacinthus autumnalis minor. Gerard. 110. Park. 132. Ray's Syn. 373.

Hyacinthus stellaris autumnalis minor. Baub. pin. 47.

Lesser Autumnal Star Hyacinth.

Dry pastures. P. September.

153 SPARAGUS. 424 Asparagus.

EMPAL. Cup none.

BLOSS. Petals six; oblong; permanent: connected by the claws into an upright tube. The three inner petals alternate; reflected at the top.

CHIVES. Threads six; thread-shaped; standing on the petals; upright; shorter than the blossom. Tips roundish.

POINT. Seedbud turban-shaped, with three corners. Shaft very short. Summit a prominent point.

S.VESS. Berry globular; with three cells and a dot at the end.

SEEDS. Two; smooth; roundish; but angular on the inside.

Obs. It is not easy to say whether the blossom is composed of one or of six petals; but the figure of it differs in different species.

Cultivated
Officinalis

SPARAGUS. The stem herbaceous; cylindrical; upright. Props in pairs. Leaves like bristles—*The outer props solitary; the inner ones smaller and in pairs.* Fruit-stalks in pairs; limber; pendant; each supporting a single bell-shaped blossom. The inner petals longer than the others. Blossoms yellowish green. Berries red.

Asparagus. Park. 454. Gerard. 1110. Ray's Syn. 267.

Asparagus sativus. Baub. pin. 489.

Sperage.

1. There is a variety with thicker leaves.

In fields near the sea. P. July.

It delights in a sandy soil.

The young shoots of this plant in its cultivated state, are very universally esteemed for their flavour and nutritious qualities.

They impart a fætid smell to the urine.

The *Sparagus Chrysomela* lives upon it.

154 FRITILLARY. 411 Fritillaria.

EMPAL. *Cup* none.

BLOSS. Bell-shaped; expanding at the base. Petals six; oblong; parallel. *Honey-cup* a hollow in the base of each petal.

CHIVES. *Threads* six; awl-shaped; approaching the shaft. *Tips* four-cornered; oblong; upright.

POINT. *Seedbud* oblong; three-sided; blunt. *Shaft* simple; longer than the chives. *Summit* with three clefts; expanding; blunt.

S. VESS. *Capsule* oblong; blunt; with three lobes, three cells, and three valves.

SEEDS. Several; flat; outwardly half circular; standing in two rows.

FRITILLARY, with all the leaves alternate, and one flower Chequered only on a stem—*Fruit-stalks* slender; Blossom nodding; chequered Meleagris with purple, and greenish yellow. The Stalk grows considerably longer after the flowering is over.

Fritillaria præcox purpurea variegata. Baub. pin. 64.

Fritillaria vulgaris. Park. 40.

Fritillaria variegata. Gerard. 149.

Common chequered Daffodil or Fritillary.

Meadows and pastures. P. April—May.

155 SPICEWORT. 434 Acorus.

EMPAL. *Stalk* cylindrical; undivided; covered by the florets. *Sheath* none. *Cup* none.

BLOSS. *Petals* six; blunt; concave; flexible; thicker upwards and generally lopped.

CHIVES. *Threads* six; rather thick; something longer than the petals. *Tips* thick; terminating; double; connected.

POINT. *Seedbud* hunched; oblong; as long as the chives. *Shaft* none. *Summit* a prominent point.

S. VESS. *Capsule* short; triangular; tapering each way; blunt. Cells three.

SEEDS. Several; oblong; egg-shaped.

Flag
Calamus

SPICEWORT. As there is only one species known Linnæus gives no description of it—*Leaves thick; narrow; two edged. Flowering stalk thicker than the leaves.*

Acorus verus, seu calamus officinalis. Baub. pin. 34.

Acorus verus seu calamus officinarum. Park. 140. Ray's Syn. 437.

Acorus verus, officinis falso calamus. Gerard. 62.

Sweet Smelling Flag, or Calamus.

In rivulets and marshes. P. May.

The roots have a strong aromatic smell, and a warm pungent, bitterish taste. The flavour is greatly improved by drying. They are commonly imported from the Levant, but those of our own growth are full as good, and might supply the place of some of the foreign spices. The Turks candy the roots, and think they are a preservative against contagion.—Neither Horses, Cows, Goats Sheep or Swine will eat it.

156 R U S H. 437 Juncus.

EMPAL. *Husk* two valves.

Cup six leaves; oblong; tapering; permanent.

BLOSS. None: unless you call the leaves of the coloured cup petals.

CHIVES. *Threads* six; hair-like; very short. *Tips* oblong; upright; as long as the cup.

POINT. *Seedbud* three-cornered, tapering. *Shaft* short; thread-shaped. *Summits* three; long; thread-shaped; woolly; bent inwards.

S.VESS. *Capsule* covered; three-cornered; with one cell and three valves.

SEEDS. Several, roundish.

Obs. *There is no particular mention of the colour of the blossoms in this genus, for they are all brown or approaching to blackness.*

* *Straws* naked.

Marine
Acutus

RUSH. The straw nearly naked; cylindrical; sharp pointed. Panicle terminating: fence of two leaves; thorny—

Juncus acutus capitulis sorghi. Baub. pin. 10. Ray's Syn. 431.

Juncus maritimus capitulis sorghi. Park. 1192.

Sea Hard Rush.

In marshes on the sea-coast. P. July—August.

RUSH.

RUSH. The straw naked ; stiff and straight. Flowers in a Roundheaded lateral knob.— Conglomeratus

Juncus lævis vulgaris panicula compactiore. Ray's Syn. 432.

Juncus lævis panicula non sparsa. Baub. pin. 12.

Juncus lævis glomerato flore. Park. 1192.

In boggy pastures. P. June—August.

RUSH. The straw naked, stiff and straight. Flowers in a Soft lateral panicle.— Effusus

Juncus lævis vulgaris panicula non sparsa nostras. Ray's Syn. 452.

Juncus lævis panicula sparsa major. Baub. pin. 12. Park. 1191.

Juncus lævis. Gerard. 39.

Seaves.

Wet pastures. P. May—August.

Rushes are sometimes used to make little baskets. The pith of this and the preceding species is used instead of Cotton to make the wick of Rush-lights.—Horses and goats eat it.

RUSH. The straw naked ; terminated by a membranaceous Hard substance which is bent inwards. Flowers in a lateral panicle.— Inflexus

Juncus acutus panicula sparsa. Baub. pin. 11.

Juncus acutus. Gerard. 39. Ray's Syn. 432.

Juncus acutus vulgatus. Park. 1193.

In pastures and road sides. P. June.

RUSH. The straw naked ; thread-shaped ; nodding. Flowers Little in a lateral panicle—*The panicle not always expanded ; placed about the middle of the straw, which is so slender as hardly to support itself.* Filiformis

Juncus parvus, calamo supra paniculam longius productio. Ray's Syn. 432.

Juncus lævis panicula sparsa minor. Baub. pin. 12.

Least Soft Rush.

Boggy mountains. P. August.

RUSH. The straw naked ; leaves bristle-shaped. Flowers in Moss little congregated heads, without leaves.— Squarrosus

Juncus montanus palustris. Ray's Syn. 432.

Gramen junceum maritimum majus. Gerard. 35. Park. 1270.

Gramen foliis et spica junci. Baub. pin. 5.

Goose Corn,

On heaths. P. June.

Horses eat it.

* * *Straws leafy.*Jointed
Articulatus

RUSH. The leaves with knotted joints. Petals blunt.—*In watery situations the leaves are compressed, but in the woods they are cylindrical. The leaves are not so properly jointed as separated transversely by valves, which become visible when pressed by the fingers or held against the light.*

Juncus foliis articulosis, floribus umbellatis. Ray's Syn. 433.

Gramen Junceum folio articulato aquaticum. Baub. pin. 1270.

Jointed leaved Rush.

Woods and wet pastures. P. July—August.

Bulbous
Bulbosus

RUSH. The leaves strap-shaped and channelled. Capsules blunt—*Roots creeping; thick. Straw thread-shaped; a little compressed. Floral Leaves as long as the broad-topped spike of flowers. General and partial broad-topped spikes irregular. Capsules egg-shaped; brown; shining.*

Gramen junceum minimum capsulis triangularibus. Ray's Syn. 434.

Graminis juncei varietas minor. Gerard. 4.

Wet commons. P. August.

Cows, Goats, Sheep and Horses eat it.

Toad
Bufonius

RUSH. The straw forked; leaves angular. Flowers solitary; sitting—*Capsules brown; shining.*

Gramen juncoides minimum, anglo-britannicum. Ray's Syn. 434.

Juncus palustris humilior erectior. Ray's Syn. 434.

Gramen Junceum. Gerard. 4.

Gramen junceum parvum, seu Holosteum Matthioli, et gramen Bufonium Flandrorum. Park. 1190.

Gramen nemorosum calyculis paleaceis. Baub. pin. 7.

1. It varies in being tall; or short; or narrow-leaved.

Wet sandy ground. A. July—August.

Horses eat it.

Hairy
Pilofus

RUSH. The leaves flat and hairy. Flowers in a branching broad-topped spike.—

Gramen nemorosum hirsutum vulgare. Ray's Syn. 416.

Gramen nemorosum hirsutum. Gerard. 16.

Gramen nemorosum hirsutum majus. Park. 1184.

Gramen nemorosum hirsutum majus latifolium. Baub. pin. 7.

Common hairy Wood Rush, or Grass.

1. There is a variety which is larger; with broader leaves, viz. *Juncus Sylvaticus. Hudson 132.*

In thick woods. P. April—May.

Goats, Sheep and Horses eat it. Cows refuse it.

RUSH.

RUSH. The leaves flat and a little hairy. Flowers in spikes; Field
some sitting and some on fruit-stalks.—Campestris

Gramen hirsutum capitulis psyllii. *Baub. pin. 7.*

Gramen nemorosum hirsutum minus angustifolium. *Park.*

1185.

Gramen exile hirsutum. *Gerard. 16. Ray's Syn. 416.*

1. There is a variety with a more compact spike. *Ray's Syn. 416.*

Small hairy Wood-rush.

In pastures. The variety in turfy bogs. P. April.

Sheep, Goats and horses eat it.

157. PURSLANE. 446 Peplis.

EMFAL. Cup one leaf; bell-shaped; large; permanent.

Rim with twelve teeth; every other tooth reflected.

BLOSS. Petals six; egg-shaped; very minute; growing
from the mouth of the cup.

CHIVES. Threads six; awl-shaped, short. Tips roundish.

POINT. Seedbud egg-shaped. Shaft very short. Summit
round and flat.

S.VESS. Capsule heart-shaped. Cells two, with an oppo-
site partition.

SEEDS. Many; three cornered; small.

OBS. In several flowers, upon one and the same plant, the blossom
is altogether wanting.

PURSLANE. The flowers have rarely any petals—Stems Water
numerous; creeping. Leaves opposite; two at each joint. Blos- Portulaca
soms sitting at the base of the leaves; purplish.

Portulaca. *Ray's Syn. 368.*

Alfine palustris minor, serpylli folia. *Baub. pin. 120.*

Alfine rotundifolia, five Portulaca aquatica. *Gerard. 614.*

Alfine aquatica minor folio oblongo, feu Portulaca aquatica.
Park. 1260.

Marshes and shallow stagnant waters. P. September.

Order III. Three Pointals.

158 TUBEROOT. 457. Colchicum.

EMPAL. None; except sometimes a sort of scattered sheathes.

BLOSS. With six divisions. *Tube* angular; extending down to the root. *Segments* of the border betwixt spear and egg-shaped; concave, upright.

CHIVES. *Threads* six; awl-shaped; shorter than the blossom. *Tips* oblong, with four valves; fixed sideways to the threads.

POINT. *Seedbud* buried within the root. *Shafts* three; thread-shaped; as long as the chives. *Summits* reflected; channelled.

S.VESS. *Capsule* of three lobes; connected on the inside by a seam; blunt; with three cells, opening inwards at the seams.

SEEDS. Many; nearly globular; wrinkled.

Saffron
Autumnale

TUBEROOT. With flat, spear-shaped, upright leaves—*Blossoms* pale purple. *Cultivation* produces a great variety of colours and makes the blossoms double.

Colchicum commune. Bauh pin. 67. Ray's Syn. 373.

Colchicum Anglicum purpureum et anglicum album. Park.

153. Gerard. 157.

Meadow Saffron.

In rich pastures. P. September.

This is one of those plants that upon the concurrent testimony of ages was condemned as poisonous; but Dr. Storch of Vienna hath taught us that it is an useful Medicine. The roots have a good deal of acrimony. An infusion of them in vinegar, formed into a syrup by the addition of sugar or honey, is found to be a very useful pectoral and diuretic. It seems in its virtues very much to resemble the Squill, but it is less nauseous and less acrimonious.

159 ARROWGRASS.

159 ARROWGRASS. 453 Triglochin.

EMPAL. *Cup* three leaves; nearly round; blunt; concave; deciduous.

BLOSS. *Petals* three; egg-shaped; concave; blunt; resembling the leaves of the cup.

CHIVES. *Threads* six; very short. *Tips* six; shorter than the petals.

POINT. *Seedbud* large. *Shafts* none. *Summits* three, or six; reflected; downy.

S.VESS. *Capsule* oblong egg-shaped; blunt; with as many cells as there were summits. Valves sharp; opening at the base.

SEEDS. Solitary; oblong.

ARROWGRASS. The capsule with three cells; somewhat Marsh
strap-shaped—*Blossoms in a long terminating spike; greenish.* Palustre

Juncajo palustris et vulgaris. Ray's Syn. 435.

Gramen junceum spicatum seu triglochin. Baub. pin. 6.

Gramen marinum spicatum, Gerard. 18, alterum. Park. 1279.

Arrow-headed Grass.

In wet ditches and marshes. P. July—August.

Cows are extremely fond of it; Horses, Sheep, Goats and Swine eat it.

ARROWGRASS. The capsules with six cells; egg-shaped— Spiked
Leaves semicylindrical. Blossoms purple. Maritimum

Gramen marinum et spicatum. Park. 1270. Ray's Syn. 435.

Gramen junceum et spicatum alterum. Baub. pin. 6.

Sea spiked Grass.

In fields on the sea-coast. P. June.

It is salt to the taste, but Horses, Cows, Sheep, Goats and Swine are very fond of it.

160 D O C K. 451 Rumex.

EMPAL. *Cup* three leaves; blunt; reflected; permanent.
 BLOSS. *Petals* three; egg-shaped; not unlike the cup, but
 larger; approaching: permanent.

CHIVES. *Threads* six; hair-like; very short. *Tips* up-
 right; double.

POINT. *Seedbud* turban-shaped: three cornered. *Shafts*
 three; hair-like; reflected; standing out betwixt
 the chinks of the approaching petals. *Summits* large;
 jagged.

S. VESS. *Nore*. The petals closing in a three cornered
 form contain the feed.

SEEDS. Single; three sided.

* *Chives and pointals in the same flower. Valves beaded.*

Bleeding
 Sanguineus

DOCK. The valves very entire; only one beaded. Leaves
 betwixt heart and spear-shaped—*The outer valve of the flower is*
marked with a large red globular substance. The other valves have
seldom any globules, and if they have they are very small. Blossoms
 reddish.

Lapathum folio acuto rubente. *Bauh pin.* 115. *Ray's Syn.*
 142.

Lapathum fativum sanguineum. *Gerard.* 390.
 Bloodwort.

In Woods. B. July.

Curled
 Crispus

DOCK. The valves entire; beaded: leaves spear-shaped;
 waved at the edges; sharp—

Lapathum folio acuto crispo. *Bauh pin.* 115. *Ray's Syn.* 141.

Lapathum acutum minus. *Park.* 226.

Lapathi acuti varietas folio crispo. *Gerard.* 387.

Fields and road-sides. P. June—July.

The fresh roots bruised and made into an ointment or decocti-
 on cure the Itch. The seeds have been given with advantage in
 the dysentery.

Cows and Goats refuse it.

Golden
 Maritimus

DOCK. The valves toothed and beaded. Leaves strap-shaped
 —*Blossoms dirty yellow.*

Lapathum minimum. *Bauh pin.* 115.

1. With larger seeds and fewer whorls of flowers.

Lapathum folio acuto, flore aureo. *Bauh pin.* 115. *Rays Syn.*
 142

Lapathum aureum. *Ray's Syn.* 142.

Near the sea-coast. 1. In ditches and amongst rubbish. P.
 July—August.

DOCK.

DOCK. The valves toothed and beaded. Leaves oblong heart-shaped; tapering to a point—
Sharp-pointed
Acutus

Lapathum acutum. Gerard. 388. Ray's Syn. 142.

Lapathum acutum majus. Park. 1224.

Lapathum folio acuto plano, Baub pin. 115.

Uncultivated and wet situations. P. June.

Cows and Horses refuse it.

It is infested by the Dock-louse, *Aphis Rumicis*.

DOCK. The valves toothed and beaded; leaves oblong heart-shaped; a little scolloped, and rather blunt—
Broad-leaved
Obtusifolius

Lapathum vulgare folio obtuso. Ray's Syn. 141.

Lapathum sylvestre folio subrotundo. Baub. pin 115.

Lapathum sylvestre vulgatus. Park. 1225.

Lapathum sylvestre folio minus acuto. Gerard. 388.

Road-fides and wet places. P. July—August.

DOCK. The valves toothed; one or two beaded. Root-leaves Fiddle fiddle-shaped—Stem Leaves oblong egg-shaped, entire; not indented at the sides. Flowering Branches crooked. The outer valve of the cup beaded..
Pulcher

Lapathum pulchrum Bononiense sinuatum. Ray's Syn. 142.

Dry fields. P. June.

* * Chives and pointals in the same flower. Valves not beaded.

DOCK. The valves very entire; not beaded. Leaves heart-shaped; smooth; sharp.—
Water
Aquaticus

Lapathum aquaticum folio cubitali. Baub pin. 116.

Lapathum maximum aquaticum, five hydrolapathum. Ray's Syn. 140.

Hydrolapathum magnum. Gerard. 389.

Hydrolapathum majus. Park. 1225.

Lapathum longifolium nigrum palustre, five Britannica, antiquorum vera, vel hydrolapathum nigrum. Munting.

Great Water-dock.

In wet ditches, marshes and flow streams. P. July—Aug.

There is some confusion amongst Botanical Writers in ascertaining which is the species of Dock, so famous for medicinal purposes. Linnæus in his *Materia Medica* makes the *Herba Britannica* of the Dispensatory Writers to be the *Lapathum aquaticum, folio cubitali* of Baubine; pin. 116; and says the valves are very entire, and not beaded: and the leaves betwixt heart and spear-shaped. In the *Flora Suecica*, ed. 2. he calls the leaves heart-shaped. In the 3d. edition of the *Species Plantarum* he adds to the last mentioned character of the leaves, the epithet sharp; and afterwards in the 12th edit. of the *Systema Naturæ* he says the leaves are heart-shaped, smooth and sharp. Mr. Hudson in his *Flora Anglica*, does not seem to consider the

RUMEX

Rumex aquaticus as a British species, but takes the *RUMEX Britannica* of Linnæus to be our great *Water Dock*; and after giving the specific character of that from the *species plantarum*, adds, the Synonyms of Gerard, Parkinson, Baubine, Munting, and Ray. Now in the *RUMEX Britannica* all the *Valves* are beaded, and the *Leaves* are *spear-shaped*. Linnæus too seems to consider this species as a native of *Virginia*, and as unknown to Baubine; he accordingly quotes the Synonyms of Colden and Gronovius; writers upon the North American Plants. Dr. Martyn in his *Catalog. Horti. Cantab.* considers the *Great Water Dock* as the *RUMEX aquaticus* of Linnæus, and takes notice of Hudson calling it the *RUMEX Britannica*. Dr. Lewis too in his *Materia Medica*, describing the *Great Water Dock* says the *Valves* are not beaded.

But then how happens it that a North American plant should obtain the trivial name *Britannica*? Munting, who wrote a volume to prove the *RUMEX Britannica* to be the true *Herba Britannica* of the ancients, (see *Pliny*) says the word *Britannica* had no reference to the island of Great-Britain, but is composed of three Teutonic words, signifying, to *fasten loose teeth*. His description of the root does not agree with that of Baubine. In a dried specimen of my own, the *Valves* are not beaded; but a friend of mine hath one in his collection in which the *Valves* are all beaded. How shall we reconcile these differences? Is the plant subject to these varieties? or do both the species grow wild in Great-Britain? Now the difficulty is pointed out, future observations will soon determine the matter. The virtues are probably the same in both. It is a medicine of considerable efficacy both externally applied as a wash for putrid spongy gums, and internally in some species of Scurvy. In Rheumatic pains and in Chronical diseases, owing to obstructed viscera, it is said to be useful. The powdered root is one of the best things for cleaning the teeth. The *Root* of our species is blackish on the out-side, white within; sometimes with a reddish tinge, but soon changing to a yellowish brown when exposed to the air.

The black and white Weevil, *Curculio Lapathi*, is found upon the leaves.

Of the *American Species* there are two varieties; in one the root is yellow both internally and externally: in the other it is black on the outer surface, with circular rings, and orange coloured within: brittle and spongy, but not fibrous: seldom branched, but furnished with slender lateral threads. It grows in deep black muddy places. This is the root used by the native Indians of North America with such success in foul ill-conditioned ulcers, and which they refused to discover to the Europeans for any price; but a lucky circumstance revealed the secret.

secret. I saw an ill-conditioned ulcer in the mouth, which had destroyed the palate, cured with it, by washing the mouth with a decoction of the root, and drinking a small quantity of the same decoction daily. *Cold. Pl. Coldhng. n. 68.*

DOCK. The flowers with only two pointals—*Blossom with* Round-leaved
four clefts. Cup of two leaves. Seedbud compressed. Stem trailing. Digynus

Acetosa cambro-britannica montana. Park. 745.

Round-leaved Mountain Sorrell.

On Mountains. P. June.

Goats eat it.

*** *Chives and pointals on distinct plants.*

DOCK. The leaves oblong; arrow-shaped—*On purplish leaf-* Sorrel
stalks. Blossoms reddish. Acetosa

Lapathum acetosum vulgare. Ray's Syn. 143.

Acetosa vulgaris. Park. 742.

Acetosa pratensis. Bauh. pin. 114.

Oxalis feu acetosa. Gerard. 396.

Cuckow-meat.

In pastures. P. June.

1. There is a variety that is larger found upon Rocks near the Sea.

The leaves are eaten in sauces and in fallads. The Laplanders use them to turn their milk sour. In France they are cultivated for the use of the table, being introduced in soups, ragouts and fricafies. In some parts of Ireland they eat them plentifully with milk, alternately biting and supping. The Irish also eat them with fish and other alcalescent food. The dried root gives out a beautiful red colour when boiled.

Horses, Cows, Goats, Sheep and Swine eat it.—The Sorrel Louse, *Aphis Acetosæ*, feeds upon it.

DOCK. The leaves betwixt spear and halberd-shaped—*Roots* Little
creeping. Blossoms yellowish. Acetosella

Lapathum acetosum repens lanceolatum. Ray's Syn. 143.

Acetosa arvensis lanceolata, Bauh. pin. 114.

Acetosa minor lanceolata, Park. 744.

Oxalis tenuifolia. Gerard. 391.

Sheeps Sorrel.

Sandy cornfields and pastures. P. May—July.

Horses, Cows, Goats, Sheep and Swine eat it.

OBS. The spotted red and white Underwing Moth, *Phalæna Fuliginosa*—the wild arrack Moth, *Ph. Atriplicis*—the bramble Moth, *Ph. Rumicis*, and the Meloe *Proscarabæus*, are found upon the different species of this genus.

Order

Order V. Many Pointals:

161 THRUMWORT. 460 Alisma.

EMPAL. *Cup* three leaves; egg-shaped; concave; permanent.

BLOSS. *Petals* three; circular; large; flat; greatly expanded.

CHIVES. *Threads* six; awl shaped; shorter than the blossom. *Tips* roundish.

POINT. *Seedbuds* more than five. *Shafts* simple. *Summits* blunt.

S. VESS. *Capsule* compressed.

SEEDS. Solitary; small.

Great
Plantago

THRUMWORT. The leaves egg-shaped; sharp. Fruit with three flattened corners—*Blossoms* reddish white.

Plantago aquatica. Ray's Syn. 257.

Plantago aquatica major. Gerard. 417. Park. 1245.

Plantago aquatica latifolia. Baub. pin. 190.

Great Water Plantain.

In shallow waters. P. June—July.

Goats eat it. Horses, Cows, Sheep and Swine refuse it.

Star-headed
Damasonium

THRUMWORT. The leaves oblong heart-shaped. Flowers with six pointals; capsules awl-shaped—*Blossoms* white.

Plantago aquatica minor stellata. Gerard. 417.

Plantago aquatica stellata. Baub. pin. 190.

Plantago aquatica minor muricata. Park. 1245.

Damasonium stellatum Dalechampii. Ray's Syn. 272.

Starry-headed Water Plantain.

Ditches and stagnant waters. P. June—August.

Floating
Natans

THRUMWORT. The leaves egg-shaped; blunt. Fruit-stalks solitary.—

Creeping Water Plantain.

Lakes. P. August.

Small
Ranunculoides

THRUMWORT. The leaves betwix spear and strap-shaped. Fruit globular; scurfy—*The flower opens about noon, and that is the best time to look for it.* Blossoms bluish white.

Plantago aquatica minor. Park. 1245. Ray's Syn. 257.

Plantago aquatica humilis. Gerard. 417.

Plantago aquatica angustifolia. Baub. pin. 190.

Lesser Water Plantain.

In water, but not common. P. June—August.

C L A S S

CLASS VII.

SEVEN CHIVES.

ORDER I. ONE POINTAL.

162 **W**INTERGREEN. *Cup* seven leaves. *Bloss.* with seven divisions; flat. *Berry* one cell: dry.

Chickweed
Europe

162 WINTER-

CLASS

162 WINTERGREEN. 461 Trientalis.

EMPAL. *Cup* seven leaves; spear-shaped; tapering; expanding; permanent.

BLOSS. *Starry*; flat; of *one Petal* with seven divisions, slightly adhering at the base. *Segments* betwixt egg and spear-shaped.

CHIVES. *Threads* seven; hair-like; growing on the claws of the blossom; standing wide; as long as the cup. *Tips* simple.

POINT. *Seedbud* globular. *Shaft* thread-shaped; as long as the chives. *Summit* a knob.

S. VESS. *Berry* not unlike a capsule; dry; globular of one cell. Coat very thin; opening by various seams.

SEEDS. Several; angular. *Receptacle* large; hollowed out to receive the seeds.

OBS. *Although seven is the general number in this plant it is not invariably so. The fruit is a dry berry, not opening with valves like a capsule.*

Chickweed
Europæa

WINTERGREEN. The leaves spear-shaped; very entire—*The petals close when rain approaches, and the flowers hang down.* Blossoms white; on long fruit stalks.

Alfinanthemos. Ray's Syn. 286.

Pyrola alfines flore Europæa. Bauh. pin. 191. Park 509.

Woods and heaths. P. June.

Horses, Goats and Sheep eat it. Cows refuse it.

C L A S S.

CLASS VIII.

EIGHT CHIVES.

ORDER I. ONE POINTAL.

* *Flowers perfect.*† *Maple.*

631 **WILLOWHERB.** *Bloss.* four petals. *Cup* four leaves: superior. *Caps.* four cells. *Seeds* feathered.

164 **CENTAURY.** *Bloss.* with eight clefts. *Cup* eight leaves: beneath. *Caps.* one cell. Two valves. *Seeds* many.

165 **WHORTLE.** - *Bloss.* one petal. *Cup* with four teeth: superior. *Chives* growing on the seat. *Fruit* a berry.

166 **HEATH.** - - *Bloss.* one petal. *Cup* four leaves: beneath. *Chives* growing on the seat. *Fruit* a capsule.

† *Heath Andromeda.** * *Flowers imperfect.*† *Primrose Birds-nest.*

167 **MEZEREON.** *Cup* with four equal clefts; resembling a blossom and inclosing the chives. *Berry* pulpy.

Order

Order II. Two Pointals.

† *Saxifrage.* † *Pale Snakeweed.*

Order III. Three Pointals.

168 SNAKEWEED. *Bloss.* none. *Cup* with five divisions.
Seed single; naked.

Order IV. Four Pointals.

169 MOSCHATEL. *Bloss.* with four or five clefts: superior. *Cup* two leaves. *Berry* with four or five seeds.170 WATERPINE. *Bloss.* four petals. *Cup* four leaves. *Capsule* four cells.171 TRUELOVE. *Bloss.* four petals; awl-shaped. *Cup* four leaves. *Berry* four cells.† *Whorled Featherwort.*

163 WILLOWHERB. 471 Epilobium.

EMPAL. *Cup* four leaves; superior. *Leaves* oblong; tapering; coloured; deciduous.

BLOSS. *Petals* four; circular; expanding; broadest on the outer part, and notched at the end.

CHIVES. *Threads* eight; awl-shaped; alternately shorter. *Tips* oval; compressed; blunt.

POINT. *Seedbud* beneath; cylindrical; very long. *Shaft* thread-shaped. *Summit* with four clefts; thick; blunt; rolled backwards.

S. VESS. *Capsule* very long; cylindrical; scored; of four cells and four valves.

SEEDS. Numerous; oblong; crowned with a feather. *Receptacle* very long; four cornered; loose; limber; coloured.

Obs. *In some species the chives and pointals are upright, in others they lean towards the lower side of the blossoms.*

* *Chives declining.*

WILLOWHERB with leaves betwixt strap and spear-shaped; Rosebay scattering. Flowers unequal—*Chives declining*. Blossoms red. Angustifolium. *Receptacle replete with honey. Cultivation produces blossoms of different colours and purple streaks in the leaves.*

Lyfimachia chamænerion dicta angustifolia. Baub. pin. 245.

Lyfimachia speciosa, quibusdam onagra dicta, filiquosa. Ray's Syn. 310.

Chamænerion flore delphini. Park. 548.

Goats are extremely fond of it; Cows and Sheep eat it. Horses and Swine refuse it.

Woods and hedges. P. July—August.

The Elephant Moth, *Sphinx Elpenor*, is found upon this plant.

* * *Chives upright, irregular. Petals cloven.*

WILLOWHERB with opposite, spear-shaped, woolly, toothed leaves. Seed-vessels smooth—*Blossoms pale purple.* Smallflowered Parviflorum

Lyfimachia filiquosa hirsuta, parvo flore. Baub. pin. 245. Ray's Syn. 311.

Lyfimachia sylvatica. Gerard. 476.

Lyfimachia filiquosa sylvestris hirsuta. Park. 549.

Epilobium hirsutum. Hudson. 140. Sp. Plant. 494.

Small flowered hairy Willowherb.

Banks of rivers. P. July.

Q

WILLOWHERB.

*** *Chives upright, regular; petals cloven.*

Hairy
Hirsutum

WILLOWHERB. The leaves opposite; spear-shaped; serrated; running along and embracing the stem—*The whole plant is a little hairy. Stem cylindrical; hairs expanding. Lower Branches opposite. Flowers in bunches; terminating; alternate; one upon each little fruit-stalk. Seedbud woolly. Petals cloven half way down. Chives upright; regular. Blossoms red.*

Epilobium ramosum. Hudson. 141.

Lyfimachia filiquosa hirsuta magno flore. Baub. pin. 245. Ray's Syn. 311.

Great flowered Willowherb, or Codlings and Cream.

Wet hedges and rivulets. P. July.

The top shoots have a very delicate fragrancy, but so transitory that before they have been gathered five minutes it is no longer perceptible.—Horses, Sheep and Goats eat it. Cows are not fond of it; Swine refuse it.

Smooth-leaved
Montanum

WILLOWHERB. The leaves opposite; egg-shaped; toothed—*Stem very soft; cylindrical; upright; reddish. Leaves covered with, very fine soft down especially on the under surface. Petals cloven; red; sometimes white.*

Lyfimachia campestris. Gerard. 478.

Lyfimachia filiquosa glabra major. Baub. pin. 245.

Lyfimachia filiquosa major. Park. 548.

In wet gravelly soil. B. June.

Goats eat it. Horses are not fond of it.

Narrowleaved
Tetragonum

WILLOWHERB. The leaves spear shaped; set with little teeth. The lower ones opposite. Stem four cornered—*The young leaves have livid spots, and the tender top of the plant hangs down. Blossoms red.*

Lyfimachia filiquosa glabra media seu minor. Gerard. 479. Ray's Syn. 311.

Lyfimachia filiquosa glabra minor. Baub. pin. 245.

Ditches and rivulets. P. July.

Marsh
Palustre

WILLOWHERB. The leaves opposite; spear-shaped; very entire. Petals notched at the end. Stem upright—*Leaves indistinctly toothed. Petals reddish. Pods on fruit-stalks.*

Lyfimachia filiquosa glabra minor angustifolia. Gerard. 479. Ray's Syn. 311.

Lyfimachia filiquosa glabra angustifolia. Baub. pin. 245.

In marshes. P. July.

Horses, Sheep and Goats eat it. Swine refuse it.

WILLOWHERE.

WILLOWHERB. The leaves opposite; betwixt egg and Mountain spear-shaped; very entire. Pods sitting; Stem creeping—*hardly* Alpinum *a span long.* Blossoms *pale red.*

Lyfimachia filiquosa glabra minor latifolia. Ray's Syn. 311.

Near rivulets on the sides of hills. P. July.

164 CENTAURY. 1258 Chlora.

EMPAL. Cup of eight sharp leaves: permanent.

BLOSS. One petal; funnel-shaped. The Border divided into eight spear-shaped Segments, lapping over each other.

CHIVES. Threads eight; awl-shaped; inserted into the upper part of the tube. Tips simple.

POINT. Seedbud oblong; four cornered; longer than the tube. Shaft cylindrical; cloven. Summits two; horse-shoe-shaped.

S.VESS. Capsule oblong; four cornered; of one cell, and two valves.

SEEDS. Numerous; small; egg-shaped.

OBS. This generic description was taken from nature, before the publication of the Mantissa Plantarum. Linnæus had considered it as a species of GENTIAN, and in the last edition of the Sp. Pl. arranged it as such; but Mr. Hudson, convinced of the impropriety of this arrangement, considered it as a new genus and called it BLACKSTONIA; his description however differs considerably both from that of Linnæus and from mine; but perhaps the plant itself is subject to variations.

CENTAURY with perforated leaves—Blossoms yellow; in loose clusters; terminating. Yellow

Perfoliata

Centaureum luteum perfoliatum. Eaub. pin. 278. Ray's Syn. 287.

Centaureum parvum luteum lobelii. Gerard. 547.

Centaureum minus luteum et perfoliatum non ramosum. Park. 271.

Blackstonia perfoliata. Hudson. 146.

In pastures. A. July.

165 WHORTLE. 483 Vaccinium.

EMPAL. *Cup* very small; superior: permanent.BLOSS. One petal; bell-shaped; with four clefts. *Segments* rolled backwards.CHIVES. *Threads* eight; simple. *Tips* with two horns; opening at the point, and furnished with two expanding awns which are fixed to the back.POINT. *Seedbud* beneath. *Shaft* simple; longer than the chives. *Summit* blunt.S.VESS. *Berry* with four cells; globular, with a hollow dimple.

SEEDS. Few; small.

OBS. *The Biberri WHORTLE and several foreign species have frequently one fourth more in number in the parts of the flower. In this species the cup is very entire, but in others it hath four clefts. In the Craneberry WHORTLE the new blown blossom is almost entire and is rolled backwards towards its base.*

* *Leaves deciduous.*Bilberry
Myrtillus

WHORTLE. The fruit-stalks supporting only one flower. Leaves serrated; egg shaped; deciduous. Stem angular—*Chives* ten. Blossom with five clefts; reddish white. Berries bluish black.

Vitis idæa, foliis oblongis crenatis, fructu nigricante. Bauh. pin. 470.

Vitis idæa angulosa. Ray's Syn. 457.

Vaccinia nigra. Gerard. 1415. vulgaria. Park. 1455.

Black-worts. Whortle-berries. Biberries. Wind-berry.

Woods and heaths. P. April—May.

The berries are very acceptable to children, either eaten by themselves, or with milk, or in tarts. The moor game live upon them in the autumn. The juice stains paper or linen purple.—Goats eat it. Sheep are not fond of it. Horses and Cows refuse it.

Great
Uliginosum

WHORTLE. The fruit-stalks supporting only one flower; leaves very entire; oval; blunt; smooth—*fringed at the base; deciduous.* Blossoms purplish white. Berry bluish black.

Vitis idæa foliis subrotundis exalbidis. Bauh. pin. 470.

Vitis idæa magna quibusdam, five myrtillus grandis. Ray's Syn. 457.

Vitis idæa foliis subrotundis major. Gerard. 1416.

Vaccinia nigra fructu majore. Park. 1455.

Great Bilberry Bush.

Northern counties. S. April—May.

Children sometimes eat the berries; but in large quantities they occasion giddiness and a slight head-ach, especially when full grown

grown and quite ripe. Brookes says many vintners in France make use of the juice to colour their white wines red.—Horses, Cows, Sheep and Goats eat it. Swine refuse it.

* * *Leaves Evergreen.*

WHORTLE with flowers in bunches; terminating; nod- Red ding. Leaves inversely egg-shaped; very entire; rolled back at the edges; dotted on the under side—*Blossoms reddish white.*

Vaccinia rubra. Gerard. 1415.

Vaccinia rubra buxeis foliis. Park. 1458.

Vitis idæa foliis subrotundis non crenatis, baccis rubris, Baub. pin. 470.

Vitis idæa sempervirens fructu rubro. Ray's Syn. 457.

Red Whortle-berries.

High commons and heaths. S. April—May.

The berries are eaten largely by the country people, as nature presents them. They may be made into tarts or jelly.—Goats eat it. Cows, Sheep and Horses refuse it.

WHORTLE. The leaves egg-shaped; very entire; rolled back at the edges. Stems creeping; thread-shaped; naked—*Oxycoccus* back at the edges. *Flowers in a very short bunch; upon very long fruit-stalks.* Floral *Leaves two; alternate.* *Blossoms rolled back; reddish white.* Berry red, mottled with purple.

Vaccinium palustre. Park. 1229.

Vaccinia palustris. Gerard. 1425.

Vitis idæa palustris. Baub. pin. 471.

Oxycoccus seu vaccinia palustris. Ray's Syn. 267.

Cran-berries. Moss-berries. Moor-berries.

In wet mossy and peaty land. S. May—June.

The berries are hardly eatable alone, but when made into tarts some people prefer them to all other sweetmeats. They may be kept for years, by drying them a little in the sun, and then stopping them up in dry bottles.—Goats and Swine eat it. Horses, Cows and Sheep refuse it.

166 HEATH. 484 Erica

EMPAL. *Cup* with four leaves; egg-shaped; upright; coloured; permanent.

BLOSS. One petal, bell-shaped; with four clefts, often distended.

CHIVES. *Threads* eight; hair-like; standing on the receptacle. *Tips* cloven at the point.

POINT. *Seedbud* roundish. *Shaft* thread-shaped; straight; longer than the chives. *Summits* resembling a little crown; with four clefts and four edges.

S.VESS. *Capsule* roundish; inclosed; smaller than the cup; with four cells and four valves.

SEEDS. Numerous; very small.

OBS. *In some species the cup is double; in the Firleaved HEATH it consists of one leaf with four divisions. The figure of the blossom varies betwixt egg-shaped and oblong. The chives in some species are longer and in others shorter than the blossom.*

* *Tips with two horns.*

Common
Vulgaris

HEATH. The tips inclosed within the blossom. Blossoms unequal; bell-shaped; rather shorter than the cup. Leaves opposite; arrow-shaped—*Stems* brown; woody. Leaves opposite; somewhat three edged; the lower edge channelled; fixed to the stem above the base, which is cloven and sharp. Blossom with four clefts going more than half way down; purplish. Shaft ascending.

Erica vulgaris. Park. 1480. Ray's Syn. 470.

Erica vulgaris seu pumila. Gerard. 1380.

Erica vulgaris glabra. Baub. pin. 485.

Ling. Grig.

1. There is a variety with white blossoms.

On commons and moors. S. June—August.

This plant, but little regarded in happier climates, is made subservient to a great variety of purposes, in the bleak and barren Highlands of Scotland. The poorer inhabitants make walls for their cottages, with alternate layers of heath, and a kind of mortar made of black earth and straw. The woody roots of the heath being placed in the center, the tops externally and internally. They make their beds of it, by placing the roots downwards, and the tops only being uppermost, they are sufficiently soft to sleep upon. Cabbins are thatched with it.

In the island of Ilay, ale is frequently made by brewing one part malt, and two parts of the young tops of heath; sometimes they add hops. Boethius relates that this liquor was much used by the Picts. Pennant's Tour. 1772. p. 229.

Woollen

Woollen cloth boiled in alum water, and afterwards in a strong decoction of the tops of heath, comes out a fine orange colour. The stalks and tops will tan leather. In England besoms are made of it, and faggots to burn in ovens, or to fill up drains that are to be covered over. Sheep and Goats will sometimes eat the tender shoots, but they are not fond of them.

Cattle not accustomed to browse on heath, give bloody milk, but are soon cured by drinking plentifully of water. *Pennant's Tour.* 1772. p. 229. Horses will eat it. Bees extract a great deal of honey from the flowers; and where heath abounds the honey has a reddish cast; otherwise it is white.

HEATH. The tips inclosed within the blossoms; which are Fine-leaved egg-shaped and grow in bunches. Leaves growing by threes; Cinerea strap-shaped, smooth—*fleshy*. Blossoms *purplish pink*. Stem *ash-coloured, woody*.

Erica tenuifolia. Gerard. 1380. Ray's Syn. 471.

Erica humilis cortice cinereo, arbuti flore. Baub. pin. 486.

Erica virgata, seu VI. Clusii. Park. 1483.

1. Little branches in distant whorls, three in each whorl.

Whorled

Erica ternis per intervalla ramulis. Baub. pin. 486.

On heaths and in very dry woods. S. June—August.

HEATH. The tips inclosed within the blossoms; which are Cross-leaved nearly globular; incorporated; longer than the leaves. Leaves Tetralix growing by fours, fringed, expanding—*Blossoms purple*.

Erica major flore purpureo. Gerard. 1382.

Erica ex rubro nigricans scoparia. Baub. pin. 486.

Erica brabantica folio coridis hirsuto quaterno. Ray's Syn. 471.

On moist commons. S. July—August.

Goats eat it.

* * *Tips simple, blunt; notched at the end.*

HEATH. The tips inclosed within the blossoms which are Rough-leaved egg-shaped, but irregular and collected into bunches. Leaves Ciliaris growing by threes, fringed, expanding—*The whole plant is somewhat woody, and about two feet high.* Leaves oblong egg-shaped, sharp; rolled back at the edges. Blossoms large, egg-shaped, contracted and irregular at the mouth; pale pink or purple.

Erica vulgaris hirsuta. Gerard. 1382. Ray's Syn. 471.

Erica hirsuta anglica. Ray's Syn. 602.

Erica vulgaris hirsutior. Park. 1480.

On Commons. S. June—July.

Fir-leaved
Multiflora

HEATH. The tips appearing above the blossoms, which are cylindrical, and longer than the cup. Leaves strap-shaped, expanding; growing by fives—*Blossoms numerous, purple. Tips red; so much divided as to appear like two on each thread.*

Erica foliis corios multiflora. Ray's Syn. 471.

On commons. S. June—July.

The Heath Fritillary Butterfly, *Papilio Maturna*, is found upon the different species of this genus.

167 MEZEREON. 485 Daphne.

EMPAL. Cup none.

BLOSS. One petal; funnel-shaped. Tube cylindrical; closed at the base, longer than the Border which hath four clefts; the Segments egg-shaped; sharp; flat; expanding.

CHIVES. Threads eight; short; standing in the tube; four of them alternately lower than the other four. Tips upright; roundish; with two cells.

POINT. Seedbud egg-shaped. Shaft very short. Summit a knob; flat, but somewhat depressed.

S.VESS. Berry of one cell; roundish.

SEED. Single; nearly globular; fleshy.

Olive
Mezereum

MEZEREON with flowers growing by threes; sitting upon the Stem. Leaves spear-shaped; deciduous—*The terminating Buds produce leaves; the lateral Buds, flowers; which open very early in the spring; often in the winter, and are so thick set as to make the branches appear of a beautiful red.*

Laureola folio deciduo, flore purpureo. Baub. pin. 426.

Camælaea Germanica, feu Mezereon. Gerard. 1403. vulgo, Park. 205.

Spurge Olive. Widow-wail.

In woods near Andover. S. February—March.

Varieties are

1. Leaves with yellow stripes.
2. Blossoms white; Berries yellowish.
3. Blossoms pale red.

An ointment prepared from the bark or the berries, hath been successfully applied to ill conditioned ulcers. The whole plant is very corrosive. Six of the berries will kill a wolf. A woman gave twelve grains of the berries to her daughter who had a quartan ague: she vomitted blood, and died immediately. A decoction made of two drams of the cortical part of the root, boiled in three pints of water till one pint is wasted; and this quantity drank daily, is found very efficacious in resolving vene-

venereal

real nodes and other indurations of the periosteum. See Dr. Ruffel's paper in the *Med. Obs. and Inquiries*. vol. 2. p. 189.

The considerable and long continued heat and irritation that it produces in the throat when chewed, made me first think of giving it in a case of a difficulty in swallowing, seemingly occasioned by a paralytic affection. The patient was directed to chew a thin slice of the root as often as she could bear to do it; and in about two months she recovered her power of swallowing. This woman bore the disagreeable irritation, and the ulcerations its acrimony occasioned in her mouth, with great resolution; for she was reduced to skin and bone, and for three years before had suffered extremely from hunger without being able to satisfy her appetite; for she swallowed liquids very imperfectly and solids not at all. The complaint came on after lying-in.—The plant is eaten by Sheep and Goats, but Cows and Horses refuse it.

MEZEREON with five flowers forming a bunch at the base Laurel of the leaves; which are smooth and spear-shaped—*Blossoms yellowish green*. The five flowers terminating the bunches are collected into a little rundle and are furnished with concave floral leaves.

Laureola. Gerard. 1405. Park. 205. Ray's Syn. 465.

Laureola sempervirens flore viridi, quibusdam laureolamas. Baub. pin. 462.

1. There is a variety with variegated leaves.

Spurge Laurel.

Woods and hedges. S. March.

Very happy effects have been experienced from this plant in rheumatic fevers. It operates as a brisk and rather severe purgative. It is an efficacious medicine in worm cases; and upon many accounts deserves to be better known to physicians; but in less skilful hands it would be dangerous, as it is possessed of considerable acrimony. The whole plant hath the same qualities, but the bark of the root is the strongest. Dr. Alston fixes the outside dose at ten grains.

Order III. Three Pointals.

168 SNAKEWEED. 495 Polygonum.

EMPAL. Cup turban-shaped; with five divisions: coloured within. Segments egg-shaped; blunt: permanent.

BLOSS. None; unless you call the cup the blossom.

CHIVES. Threads generally eight; awl-shaped; very short. Tips roundish; fixed side-ways to the threads.

POINT. Seedbud three cornered. Shafts generally three; thread-shaped; very short. Summits simple.

S. VESS. None. The Cup laps round the seed.

SEED. Single; three cornered; sharp.

OBS. In the fourth and fifth species there are only six, and in the third species only five chives. In the third, fourth, fifth and sixth species there are only two pointals. In the Pepper SNAKEWEED the seedbud and the seed are egg-shaped and compressed.

* Flowers in a single spike.

Bistort
Bistorta

SNAKEWEED. The stem undivided; supporting a single spike of flowers. Leaves egg-shaped, running down the leafstalks.—Spike pale red.

Bistorta major. Gerard. 399. Ray's Syn. 147. vulgaris. Park. 391.

Bistorta major, radice minus intorta. Baub. pin. 192.

In wet meadows. P. May—June.

The root is one of the strongest vegetable astringents.

Smaller
Viviparum

SNAKEWEED. The stem undivided; supporting a single spike of flowers; leaves spear-shaped—Blossoms whitish. The lower flowers of the spike are frequently changed into vegetating bulbs

Bistorta minor. Gerard. 399. Ray's Syn. 147. nostras. Park. 392.

Bistorta alpina minor. Paub. pin. 192.

1. There is a variety in which the lower leaves are almost circular and very minutely serrated. Ray's Syn. 147.

Small Bistort.

High pastures. P. June.

The roots dried and ground to powder are nutritious.—Cows, Goats and Swine eat it. Sheep are not fond of it. Horses refuse it.

** Pointal

* * *Pointal cloven or divided. Chives fewer than eight.*

SNAKEWEED. The flowers with five chives; pointal cloven half way down, spike egg shaped—reddish. *When it grows in the water the chives are shorter than the blossom; but when it grows upon dry land they are longer than the blossom. In the former situation the plant floats upon the water, is smooth and of a pleasant green; but in the latter it is rough and dark.* Perennial Amphibium

Perficaria falicis folio perennis, potamogiton angustifolium dicta. Ray's Syn. 145

Potamogiton angustifolium. Gerard. 821.

Potamogiton falicis folio. Baub. pin. 131.

Fontalis major longifolia. Park. 1254.

Perennial arsmart. Red-shanks.

Ditches and marshes. P. July.

Horses, Goats, Sheep and Swine eat it. Cows refuse it.

SNAKEWEED. The flowers generally with six chives; Pepper pointals deeply divided. Leaves spear-shaped; props but little fringed—*Leaves smooth on both surfaces, with very minute bristles at the edges. Blossoms purple or white; in long terminating spikes. Summits globular.* Hydropiper

Perficaria urens, five hydropiper. Baub. pin. 101.

Perficaria vulgaris acris, seu hydropiper. Ray's Syn. 144.

Perficaria vulgaris acris, seu minor. Park. 856.

Hydropiper. Gerard. 445.

Water-pepper. Arsmart. Lakeweed.

Rivulets, ditches. A. July—August.

The whole plant has an acrid burning taste. It cures little aphthous Ulcers in the mouth. It dyes wool yellow. The ashes of this plant mixed with soft soap is a nostrum, in a few hands, for dissolving the stone in the Bladder; but it may be reasonably questioned whether it has any advantage over other caustic preparations of the vegetable Alkali.

Horses, Cows, Goats, Sheep and Swine refuse it.

SNAKEWEED.

Spotted
Perficaria

SNAKEWEED. The flowers generally with six chives and two pointals. Spikes oblong egg-shaped; leaves spear-shaped; props fringed—*Leaves downy on the under surface; and sometimes with a dark spot in the shape of a crescent on the upper surface. Blossoms in terminating spikes; reddish.*

Perficaria maculosa. Gerard. 445. Ray's Syn. 145.

Perficaria mitis maculosa et non maculosa. Baub. pin. 101.

Perficaria vulgaris mitis seu maculosa. Park. 856.

1. There is one variety with narrower leaves, sending forth flowers from each joint. Baub. pin. 101. Ray's Syn. 145.

2. And another in which the leaves are downy on the under surface. Ray's Syn. 145. In some instances there are seven chives in each flower, and the pointal is single, but the shaft divided halfway down.

Dead or spotted Arsmart.

Common. A. August.

Its taste is slightly acid and astringent. Woollen Cloth dipped in a solution of Alum obtains a yellow colour from this plant.

Goats, Sheep and Horses eat it. Cows and Swine refuse it.

*** Florets with eight chives.

Pale
Pensylvani-
cum

SNAKEWEED. The flowers with eight chives and two pointals. Fruit-stalks covered with rough hairs. Leaves spear-shaped; props without awns.—*The whole plant is not much unlike the preceding species, but more stiff and straight. Stem branched; angular. Leaves very rough along the middle rib on the under surface. The Prickles on the fruit-stalks secrete a glutinous liquor. Flowers upon little foot-stalks, forming a spike somewhat branched; Blossoms pale-red.*

Perficaria mitis major, foliis pallidioribus. Ray's Syn. 145.

Pale Arsmart.

Cornfields and among rubbish. A. August.

Marine
Maritimum

SNAKEWEED. The flowers with eight chives and three pointals, growing at the base of the leaves; which are betwixt oval and spear-shaped; evergreen. Stem somewhat woody—*The Leaves become blue when dried. The whole plant resembles the Knotgrass SNAKEWEED but is larger and more firm. Blossoms white; four in a place.*

Polygonum marinum. Ray's Syn. 147.

Polygonum marinum maximum. Gerard. 564.

Polygonum maritimum latifolium. Baub. pin. 281.

Polygonum marinum majus. Park. 444.

Sea Knotgrass.

Sea coast. P. July.

SNAKEWEED.

SNAKEWEED. The flowers with eight chives, and three Knotgrafs pointals; growing at the base of the leaves; which are spear-shaped. Stem trailing; herbaceous—*Blossoms pale pink*. Shafts hardly perceptible. Aviculare

Polygonum mas vulgare. Gerard. 565. Ray's Syn. 146.

Polygonum mas vulgare majus. Park. 443.

Polygonum latifolium. Baub. pin. 281.

1. The figure of the leaves varies a good deal in different situations.

Knotgrafs.

Roadsides and Cornfields. A. June—September.

The seeds are useful for every purpose in which those of the next species are employed. Great numbers of small Birds feed upon them.

Cows, Goats, Sheep, Horses and Swine eat it.

It affords nourishment to the *Chrysomela Polygoni*.

**** *Leaves nearly heart-shaped*

SNAKEWEED. The leaves betwixt heart and arrow-shap- Buckwheat ed: stem unarmed; nearly upright; the angles of the seeds Fagopyrum equal—*Blossoms purplish white; in long loose spikes*.

Fagopyrum. Ray's Syn. 144. Gerard. 89. Park. 1141.

Erysimum Theophrasti folio hederaceo. Baub. pin. 27.

Buckwheat. Branks. Frenchwheat. Crap.

Cornfields. A. July—August.

This plant is very impatient of cold, dying at the very first attack of frost. The seeds furnish a nutritious meal, which is not apt to turn acid upon the Stomach. It is made into thin cakes in some parts of England, called Crumpits. It is usual with Farmers to sow a crop of Buckwheat and to plough it under when fully grown, as a manure to the land. The seeds are excellent food for poultry. Sheep that eat this plant become unhealthful. As it flowers late in the summer, M. Du Hamel, in his observations upon the management of Bees, advises to move the hives in the autumn to a situation where plenty of this plant is sown.

Cows, Goats and Sheep eat it. Swine and Horses refuse it.

SNAKEWEED.

Binding
Convolvulus

SNAKEWEED. The leaves heart-shaped; stem angular; twining. Flowers blunt—*Tips* violet colour. Flowers in bunches on fruit-stalks arising from the base of the leaves. The whole fruit-stalk is covered by the flowers. Blossoms greenish white. Leaves sometimes arrow-shaped with the two angles at the base lopped.

Convolvulus minor femine triangulo. *Baub. pin.* 295.

Convolvulus minor atriplicis folio. *Park.* 171.

Volubilis nigra. *Gerard.* 863.

Fagopyrum scandens sylvestre. *Ray's Syn.* 144.

Black Bindweed.

Cornfields and garden-hedges. A. June—September.

The seeds are quite as good for use as those of the preceding species.

Cows and Goats eat it. Sheep, Swine and Horses refuse it.

OBS. The spotted Buff Moth, *Phalæna Lubricipeda*, is found upon several species of this genus.

Order IV. Four Pointals.

169 MOSCHATEL. 501 Adoxa.

EMPAL. Cup beneath: cloven; flat; permanent.

BLOSS. One petal; with four clefts; flat. Segments egg-shaped; sharp; longer than the cup.

CHIVES. Threads eight; awl-shaped; as long as the cup. *Tips* roundish.

POINT. Seedbud beneath the receptacle of the blossom. Shafts four; simple; upright; as long as the chives: permanent. *Summits* simple.

S. VESS. Berry globular; betwixt the cup and the blossom, the cup connected with the underside of the berry, which hath four celis, and a hollow dimple.

SEEDS. Solitary; compressed.

OBS. Such are the characters of the terminating flowers; but the lateral flowers have blossoms with five clefts; ten threads, and five pointals.

MOSCHATEL.

MOSCHATEL. Lateral blossoms with five clefts—*Blossoms* Tuberous
green, with yellow chives. Fruitstalk quadrangular; naked; ter- *Moschatellina*
minating. From the base of the buds and leaves, spring out solitary
Runners, which descend to the ground and take root. Berries
reddish.

Moschatellina foliis fumarie bulbosæ. Ray's Syn. 267.

Ranunculus nemorosus moschatella dictus. Park. 226.

Ranunculus nemorum moschatellina dictus. Baub. pin. 178.

Radix cava minima viridi flore. Gerard. 1090.

Woods and shady places. P. March—April.

Goats eat it. Cows refuse it.

170 WATERPINE. 502 Elatine.

EMPAL. Cup four leaves; circular; flat; as large as the
blossom; permanent.

BLOIS. Petals four; egg-shaped; blunt; sitting; expand-
ing.

CHIVES. Threads eight; as long as the blossom. Tips
simple.

POINT. Seedbud large; round; globular but depressed.

Shafts four; upright; parallel; as long as the chives.

Summits simple.

S. VESS. Capsule large; round; globular but depressed:
with four cells and four valves.

SEEDS. Several; crescent-shaped; upright; furrounding
the receptacle like a wheel.

WATERPINE, with leaves growing in whorls—long and Boggy
narrow. *Allinastrum*

Equisetum palustre linariae scopariae folio. Baub. pin. 15.

Allinastrum gratiolæ folio. Ray's Syn. 346.

Water-wort.

In muddy ditches and bogs. P. August.

EIGHT CHIVES.

171 TRUE LOVE. 500 Paris.

EMPAL. *Cup* of four leaves; permanent. *Leaves* spear-shaped, sharp; as large as the blossom; expanding.

BLOSS. *Petals* four; expanding; awl-shaped; resembling the cup; permanent.

CHIVES. *Threads* eight; awl-shaped; short beneath the tips. *Tips* long, growing to the middle of the threads, and on each side of them.

POINT. *Seedbud* roundish, but with four angles. *Shafts* four; expanding; shorter than the chives. *Summits* simple.

S. VESS. *Berry* globular; with four angles and four cells.

SEEDS. Several; lying in a double range.

Four-leaved
Quadrifolia

TRUE LOVE. As there is only one species known, Linnæus gives no description of it.—*Stem* single, naked. *Blossom* pale green. *Berry* bluish black. *Leaves* of the cup longer than the petals; petals longer than the chives; chives longer than the shafts, and these longer than the berry.

Herba Paris. Gerard. 405. Park. 390. Ray's Syn. 264.

Solanum quadrifolium bacciferum. Baub. pin. 167.

Herb Paris. One-berry.

Woods and shady places. P. May—June.

The leaves and berries are said to partake of the properties of Opium. The juice of the berries is useful in Inflammations of the eyes. Linnæus says the root will vomit as well as Ipecacuanha, but it must be given in a double quantity.—Goats and Sheep eat it. Cows, Horses and Swine refuse it.

CLASS.

CLASS IX.

NINE CHIVES.

ORDER III. SIX POINTALS.

172 **G** LADIOLE. *Cup* none. *Bloss.* six petals.
Capsules six. *Seeds* many.

† *Water Frogbit.*

R

172 GLADIOLE.

NINE CHIVES.

172 GLADIOLE. 507 Butomus.

EMPAL. *Fence* simple; of three leaves; short.BLOSS. *Petals* six; circular; concave; shrivelling; every other petal standing on the out-side, smaller and sharper.CHIVES. *Threads* nine; awl-shaped. Six of them stand on the out-side the others. *Tips* composed of two plates.POINT. *Seedbuds* six; oblong; tapering; ending in *Shafts*. *Summits* simple.S. VESS. *Capsules* six; oblong; gradually tapering; upright; of one valve which opens inwards.

SEEDS. Many; oblong; cylindrical; blunt at each end.

Water
UmbellatusGLADIOLE. As there is only one species known Linnæus gives no description of it.—*The root leaves long, narrow. Stem cylindrical, naked. Blossoms purple and white; terminating; sometimes quite white.*Butomus. *Ray's Syn.* 273.Juncus floridus. *Park.* 1197.Juncus floridus major. *Bauh. pin.* 12.Gladiolus palustris cordi. *Gerard.* 29.

Flowering Rush.

In muddy ditches. P. June.

Neither Cows, Horses, Sheep, Swine or Goats will eat it.

CLASS

C L A S S X.

T E N C H I V E S.

ORDER I. ONE POINTAL.

* *Flowers of many equal Petals.*

- 173 **B**IRDSNEST. *Cup* resembling a blossom; hunched at the base. *Caps.* with five cells. *Seeds* many.
- 174 PEARLEAF. - *Tips* with two horns pointing upwards. *Caps.* with five cells. *Seeds* many.

† *Geraniums.** * *Flowers of one regular Petal.*

- 175 GARDROBE. - *Bloss.* bell-shaped; roundish; *Caps.* with five cells.
- 176 STRAWBERRYTREE. *Bloss.* egg-shaped; transparent at the base. *Berry* with five cells.

† *Whortle Bilberry.*

Order II. Two Pointals.

- 177 KNAWEL. - - *Bloss.* none. *Cup* with five clefts; superior. *Seeds* two.
- 178 SAX-

- 178 SAXIFRAGE. - *Bloss.* none. *Cup* superior. *Caps.* with two cells and two bills.
- 179 SENGREEN. - *Bloss.* five petals. *Cup* with five divisions. *Caps.* with one cell and two bills.
- 180 SOAPWORT. - *Bloss.* five petals. *Cup* tubular; naked at the base. *Caps.* with one cell; oblong.
- 181 PINK. - - - *Bloss.* five petals. *Cup* tubular; scaly at the base. *Caps.* with one cell; oblong.

Order III. Three Pointals.

- 182 SANDWORT. - *Caps.* with one cell. *Petals* entire; expanding.
- 183 STITCHWORT. - *Caps.* with one cell. *Petals* divided almost to the base; expanding.
- 184 CAMPION. - *Caps.* with three cells. *Petals* cloven. *Mouth* naked.
- 185 CATCHFLY. - *Caps.* with three cells. *Petals* cloven. *Mouth* crowned.

† Dwarf Elder.

Order IV. Five Pointals.

- 186 NAVELWORT. - *Caps.* five, with a honey-cup to each. *Bloss.* one petal.
- 187 STONECROP. - *Caps.* five, with a honey-cup to each. *Bloss.* five petals.
- 188 SPURREY. - - *Caps.* with one cell. *Petals* entire. *Cup* five leaves.
- 189 MOUSE-EAR. - *Caps.* with one cell. *Petals* cloven. *Cup* five leaves.
- 190 COCKLE. - *Caps.* with one cell; oblong; *Cup* tubular; like leather.
- 191 CUCKOWFLOWER. *Caps.* with three cells: oblong; *Cup* tubular; membranaceous.
- 192 WOODSORREL. *Caps.* with five cells, angular. *Bloss.* somewhat connected at the base.

† Geraniums. † Tuberous Moschatel.

173 BIRDS.

173 BIRDSNEST. 536 Monotropa.

EMPAL. None: unless you call the five outermost coloured petals the cup.

BLOSS. *Petals* ten; oblong; nearly parallel and upright; ferrated towards the point; deciduous. The five outermost are hunched at the base, and have a cavity for honey on the inside.

CHIVES. *Threads* ten; awl-shaped; upright; simple. *Tips* simple.

POINT. *Seedbud* roundish, tapering to a point. *Shaft* cylindrical; as long as the chives. *Summit* a blunt knob.

S. VESS. *Capsule* egg-shaped; blunt; with five angles and five valves.

SEEDS. Numerous; chaffy.

OBS. *Such are the generic characters of the terminating flower. But if there are any lateral flowers they contain one fifth part less in number.*

BIRDSNEST. The lateral flowers with eight; but the terminating flower with ten chives—*The whole plant smells sweet, and is of a pale yellow colour, which peculiarity is generally confined to parasitical plants and those that grow in very shady situations.*

Hypopitys lutea. Ray's Syn. 317.

Orobanche hypopitys. Baub. pin. 88.

Birds-nest, smelling like Primrose roots.

In woods; not common. P. July.

The country people in Sweden give the dried plant to cattle that have a Cough.

174 PEARLEAF. 554 Pyrola.

EMPAL. *Cup* with five divisions; very small; permanent.

BLOSS. *Petals* five; circular; concave; expanding.

CHIVES. *Threads* ten; awl-shaped; shorter than the blossom. *Tips* large; nodding; with two horns pointing upwards.

POINT. *Seedbud* roundish, angular. *Shaft* thread-shaped; longer than the chives; permanent. *Summit* rather thick.

S. VESS. *Capsule* roundish; depressed; with five angles and five cells; opening at the angles.

SEEDS. Numerous; chaffy.

OBS. *In some species the threads and shaft are upright, in others declining to one side, and in others again expanding. The shape of the summit is different in different species.*

Winter-green
Rotundifolia — PEARLEAF. The chives ascending; the pointal declining,
— *Blossoms white; on slender fruit stalks.*
Pyrola. Gerard. 408. Ray's Syn. 363.
Pyrola nostras vulgaris. Park. 508.
Pyrola rotundifolia major. Baub. pin. 191.
Common Wintergreen.
Woods in the North. P. June—July.
Goats eat it; Cows, Horses, Sheep and Swine refuse it.

Lesser
Minor

PEARLEAF. The flowers disposed in scattering bunches.
Chives and pointal straight—*This species much resembles the preceding but is easily distinguished by attending to the direction of the chives and pointal. The stalk in both is three-cornered. It is very probable that this plant was first produced by the dust of the Indented PEARLEAF impregnating the seedbud of the first species. Blossoms reddish white.*

Pyrola minor. Ray's Syn. 363.
Pyrola folio minore et duriore. Baub. pin. 191.
Lesser Winter-green.
Woods in Yorkshire. P. August.

Indented
Secunda

PEARLEAF. The flowers in bunches pointing one way
— *The chives project beyond the blossom and the summit beyond the chives. Blossoms white.*

Pyrola folio mucronato ferrato. Baub. pin. 181. Ray's Syn. 363.
Pyrola tenerior. Park. 509.
Pyrola secunda tenerior. Gerard. 408.
Dented leaved Winter-green.
In woods. P. June.
Goats eat it; sheep refuse it.

175 GARDROBE. 549 Andromeda.

EMPAL. Cup with five divisions; sharp; very small; coloured; permanent.

BLOSS. One petal; bell-shaped; with five clefts. Segments reflected.

CHIVES. Threads ten; awl-shaped; shorter than the blossom, to which they slightly adhere. Tips with two horns; nodding.

POINT. Seedbud roundish. Shaft cylindrical; longer than the chives; permanent. Summit blunt.

S. VESS. Capsule roundish; with five angles, five cells, and five valves; opening at the angles.

SEEDS. Numerous; roundish; shining.

OBS. The blossom in some species is egg-shaped, but in others truly bell-shaped.

GARDROBE. The fruit-stalks incorporated; blossoms egg-shaped; leaves alternate; spear-shaped; rolled back at the edges — Blossoms tinged with red. Rosemary-leaved Polifolia

Ledum palustre nostras arbutiflore. Ray's Syn. 472.

Rosmarinum sylvestre minus nostras. Park. 76.

Marsh Cistus. Wild Rosemary.

In Turf Bogs. P. March—April.

Goats and Sheep eat it; Cows and Horses refuse it.

GARDROBE. The flowers in bunches, all pointing one way. Blossoms with four clefts, egg-shaped. Leaves alternate, spear-shaped, rolled back at the edges — Flowers in a simple bunch, terminating; placed alternately and all pointing one way. One flower only upon each little fruit-stalk, which is somewhat clammy and hath a strap-shaped floral leaf beneath it. Cup of four leaves; awl-shaped; upright; purplish; deciduous; only a fourth part as long as the blossom. Blossom betwixt cylindrical and egg-shaped; violet coloured; twice as large as the first species. The mouth a little contracted; with four clefts, and the segments rolled back. Chives eight; threads white; Tips as long as the threads, and but a little shorter than the blossom; arrow-shaped, brown; lopped at the end; with two perforations. Shaft thread-shaped; as long as the blossom. Summit blunt; with four slight clefts. Fruit a Capsule with four cells and four valves. It hath all the appearance of the GARDROBE, but the numbers of the HEATH.

Erica cantabrica flore maximo, foliis Myrti, subtus incanis. Ray's Syn. 472.

Vaccinium cantabricum. Hudson. 143.

Irish Worts.

In spongy wet and uncultivated soil. S.

176 STRAWBERRYTREE. 552 Arbutus.

EMPAL. *Cup* with five divisions; blunt; very small; permanent.

BLOSS. One petal; egg-shaped; flattish at the base. *Mouth* with five clefts; *Segments* blunt; rolled back; small.

CHIVES. *Threads* ten, awl-shaped but distended; very slender at the base; half as long as the blossom, and fixed to the margin of its base. *Tips* slightly cloven; nodding.

POINT. *Seedbud* nearly globular; sitting upon the receptacle, which is marked with ten dots. *Shaft* cylindrical; as long as the blossom. *Summit* rather thick and blunt.

S. VESS. *Berry* roundish; with five cells.

SEEDS. Small, and hard as bone.

Common
Unedo

STRAWBERRYTREE. The stem woody; leaves smooth; ferrated. Berry containing many seeds—*Blossoms* white. Berries red.

Arbutus. Gerard. 1496. Park. 1489. Ray's Syn. 464.

Arbutus folio ferrato. Baub. pin. 460.

In the West of Ireland; particularly near the Lake of Killarney, on barren lime-stone rocks. S.

1. Blossoms oblong; berries oval.

2. Blossoms red.

3. Blossoms double.

It hath obtained a place in our gardens upon account of the beautiful appearance of its fruit; which the country people in Ireland eat, but they always drink water after it.

Mountain
Alpina

STRAWBERRYTREE. The stems trailing; leaves wrinkled, ferrated—*Berries* black; globular; sitting upon a very small red cup.

Vaccinia rubra, foliis myrtinis crispis. Ray's Syn. 457.

Vitis idæa foliis oblongis albertibus. Baub. pin. 470.

On dry mountains. S.

The berries have something of the flavour of Black Currants, but they are not so good.—Goats refuse it.

STRAWBERRY.

STRAWBERRY TREE. The Stems trailing; leaves very Perennial-
entire—*Cups purple. Blossoms white.* leaved.

In the Highlands of Scotland, and in Wales, upon the moun- Uva-ursi
tains. S.

The berries are insipid, pulpy and mealy. The plant is much used in Sweden to dye an ash-colour, and to tan leather. Half a dram of the powdered leaves given every, or every other day, hath been found useful in calculous cases. It was first used for this purpose at Montpelier, and afterwards Dr. de Haen at Vienna relates several cases in which it proved of the greatest service. Its success in England has been uncertain. Sometimes the patients found no relief, but thought their complaints rather aggravated than alleviated; whilst in other calculous and nephritic cases the symptoms have been almost entirely removed. Perhaps upon the whole we shall find it no better than other vegetable astringents; some of which have long been used by the country people in gravelly complaints, and with very great advantage; though hitherto unnoticed by the regular practitioners.—Horses, Cows, Goats and Sheep refuse it.

Order II. Two Pointals.

177 K N A W E L. 562 Scleranthus.

EMPAL. *Cup* one leaf; tubular; with five shallow clefts; sharp; permanent; narrow at the neck.

BLOSS. None.

CHIVES. *Threads* ten; awl-shaped: upright; very small, fixed to the cup. *Tips* roundish.

POINT. *Seedbud* roundish. *Shafts* two; upright; hair-like; as long as the chives. *Summits* simple.

S.VESS. *Capsule* egg-shaped: very thin; in the bottom of the cup, which closes at the neck.

SEEDS. Two; convex on one side and flat on the other.

KNAWEL. The cup open at the neck when the fruit Knotgrafs ripens—*Leaves opposite. Blossoms at the base of the leaves; greenish.* Annuus
Knewel. *Ray's Syn.* 159.

Polygonum germanicum vel Knewell germanorum. Park. 747.

Polygonum felinoides five Knewel. *Gerard.* 453.

Polygonum gramineo folio majus erectum. Baub. pin. 281.

German Knot-grafs. Annual Knewel.

Sandy ground and corn fields. A. August.

The Swedes and the Germans receive the vapour arising from a decoction of it, into their mouths to cure the Tooth-ach.—Goats and Sheep eat it. Cows refuse it.

KNAWEL.

Perennial
Perennis

KNAWEL. The cup closed at the neck when the fruit ripe s
—*Leaves hoary. Blossoms greenish; terminating.*

Knawel incanum flore majore perenne. *Ray's Syn.* 160. Tab.
5. fig. 1.

Gravelly soil and cornfields. P. August.

The Polish cochineal, *Coccus polonicus*, is found upon the roots,
in the summer months.

178 SAXIFRAGE. 558 Chrysofplenium.

EMPAL. Cup with four or five divisions; expanded; co-
loured; permanent. *Segments* egg-shaped; the op-
posite ones narrowest.

BLOSS. None; unless you call the cup so because it is
coloured.

CHIVES. *Threads* eight or ten; awl-shaped; upright; very
short; standing upon the angular receptacle. *Tips*
simple.

POINT. *Seedbud* beneath: terminated by two awl-shaped
Shafts as long as the chives. *Summits* blunt.

S.VESS. *Capsule* with two bills and two divisions; one
cell and two valves; encompassed by the cup which
becomes green.

SEEDS. Many; very small.

OBS. *The terminating Blossom hath five clefts; the others only*
four.

Alternate-
leaved

Alternifolium

SAXIFRAGE. The leaves alternate—on long leaf-stalks.
Blossoms bright yellow.

Saxifraga aurea foliis pediculis oblongis infidentibus. *Ray's*
Syn. 158.

Alternate leaved Golden Saxifrage.

In shady woods near rills of water. P. April.

Golden

Oppositifolium

SAXIFRAGE. The leaves opposite—on short leaf-stalks.
Blossoms bright yellow.

Saxifraga aurea. *Gerard.* 841. *Park.* 425. *Ray's Syn.* 158.

Saxifraga rotundifolia aurea. *Bauh pin.* 309.

Common Golden Saxifrage.

In watery lanes. P. April.

179 SENGREEN. 559 Saxifraga.

EMPAL. Cup one leaf; with five divisions; short; sharp; permanent.

BLOSS. Petals five; expanding; narrow at the base.

CHIVES. Threads ten; awl-shaped. Tips roundish.

POINT. Seedbud roundish, but tapering, and ending in two short Shafts. Summits blunt.

S. VESS. Capsule somewhat egg shaped; with two bills and one cell; opening betwixt the bills.

SEEDS. Numerous; minute.

OBS. In some species the Seedbud is beneath; in others it is superior. After the flower is open, two of the Chives opposite to each other, bend down to the Summits and discharge their dust perpendicularly over them. The next day two others bend down; and this is continued until they have all done the same.

* Leaves undivided. Stem nearly naked.

SENGREEN. The leaves ferrated; stem naked; branching. Hairy Petals tapering to a point—white; with a yellow spot near the Stellaris base.

Geum palustre minus, foliis oblongis crenatis. Ray's Syn. 354.

Hairy Kidney-wort.

Moist rocks. P. June—July.

SENGREEN. The leaves inversely egg-shaped; scolloped; Mountain on very short leaf-stalks. Stem naked; flowers collected into a Nivalis ball—Blossoms white; spotted.

Saxifraga foliis oblongo-rotundis dentatis floribus compactis.

Ray's Syn. 354. Tab. 16. fig. 1.

On lofty mountains. P. June.

* * Leaves undivided; stem leafy.

SENGREEN. The stem leaves egg-shaped; opposite; tiled. Heath-like. Upper leaves fringed—Stem thread-shaped; hanging down, or Oppositifolia creeping. Terminating Flower solitary, sitting. Blossoms blue.

Saxifraga alpina ericoides, flore cæruleo. Ray's Syn. 353.

Sedum alpinum ericoides cæruleum. Baub. pin. 284.

Mountain Heath-like Sengreen.

On barren mountains. P. March—April.

SENGREEN.

Autumnal
Autumnalis

SENGREEN. The stem leaves strap-shaped; alternate; fringed. Root leaves incorporated—*Cup much shorter than the blossom; and green. Blossoms beneath: yellow, spotted.*

Geum angustifolium autumnale, flore luteo guttato. Ray's Syn. 355.

In turf bogs. P. July—August.

Yellow
Aizoides

SENGREEN. The stem leaves betwixt strap and awl-shaped; scattered; naked; unarmed. Stems drooping—*Blossoms yellow.*

Saxifraga alpina angusto folio, folio luteo guttato. Ray's Syn.

353.

Sedum alpinum flore pallido. Bauh. pin. 284.

Yellow Mountain Sengreen.

On mountains. P. August.

*** *Leaves gashed. Stem upright.*

White
Granulata

SENGREEN. The stem leaves kidney-shaped; gashed. Stem branched. Root beaded—*Branches without leaves. Flowers superior. Cup a little hairy. Blossoms white.*

Saxifraga rotundifolia alba. Bauh. pin. 309. Ray's Syn. 354.

Saxifraga alba. Gerard. 841.

Saxifraga alba vulgaris, Park. 424.

White Saxifrage,

Dry ground. P. May.

Goats eat it. Cows, Sheep, Horses and Swine refuse it.

Rue-leaved
Tridactylites

SENGREEN. The stem leaves wedge-shaped; cloven into three parts; alternate. Stem upright; branched—*The whole plant is set with hairs which pour out a clammy liquor at their points. The truth of the observation at the end of the generic character is readily to be remarked in this species. In very dry situations the leaves are not cloven. Blossoms white.*

Saxifraga verna annua humilior. Ray's Syn. 354.

Sedum tridactylites tectorum. Bauh. pin. 285.

Paronychia rutaceo folio. Gerard. 624.

Paronychia foliis incis. Park. 556.

Whitlow-grass.

Walls. Roofs. A. April.

Tufted
Caespitosa

SENGREEN. The root leaves incorporated; strap-shaped; either entire, or else cloven into three parts. Stem upright, nearly naked, supporting one or two flowers.—*Petals blunt; greenish white: yellow when dry. The plant is smooth; the upper branches clammy. Stem leaves two or three; strap-shaped; undivided.*

Sedum tridactylites alpinum minus. Bauh. pin. 284.

Small Mountain Sengreen.

Mountains in Westmoreland. P. August.

SENGREEN.

**** *Leaves gasbed; stems trailing.*

SENGREEN. The stem leaves strap-shaped; either entire Cloven or cloven into three parts. Suckers trailing. Stem upright; Hypnoides almost naked.—*Cup green; Chives yellow. Blossom greenish white. The whole plant is clammy, and becomes reddish when fully grown.*

Saxifraga muscosa trifido folio. Ray's Syn. 354.

Sedum alpinum trifido folio. Bauh. pin. 284.

Sedum alpinum laciniatis Ajugæ foliis. Park. 739.

Trifid Sengreen.

On mountains. P. April—May.

180 SOAPWORT. 564 Saponaria.

EMPAL. *Cup* one leaf; tubular; with five teeth; permanent.

BLOSS. *Petals* five. *Claws* narrow; angular; as long as the cup. *Border* flat. *Limbs* broader towards the end; blunt.

CHIVES. *Threads* ten; awl-shaped; as long as the tube of the blossom. Every other chive fixed to the claws of the petals: five of them ripening later than the others. *Tips* oblong; blunt; fixed side-ways to the threads.

POINT. *Seedbud* somewhat cylindrical. *Shafts* two; straight; parallel; as long as the chives. *Summits* sharp.

S.VESS. *Capsule* as long as the cup; cylindrical; of one cell; covered.

SEEDS. Many; small. *Receptacle* loose.

Smooth
 Officinalis

SOAPWORT. The cup cylindrical. Leaves betwixt egg and spear-shaped—*Blossoms white or reddish, terminating.*

Saponaria. Gerard. 444. vulgaris. Park. 641.

Saponaria major lævis. Baub. pin. 206.

Lychnis Saponaria dicta. Ray's Syn. 339.

Bruise-wort.

Hedges and heaths. P. July—August.

Concave
 Hybrida

1. Leaves concave.—This singular variety is noticed by Gerard p. 435; who found it in a small wood called the Spinie near the village of Lichbarrow in Northamptonshire; but it is not now to be found there. It seems to be a mule produced betwixt the Soapwort and the Gentian, the dust of the latter falling upon the pointals of the former. It does not produce perfect seeds.

Lychnis Saponaria dicta folio convoluto. Ray's Syn. 339.

Saponaria concava anglica. Baub. pin. 206.

The whole plant is bitter. Bruised and agitated with water it raises a lather like soap, which washes greasy spots out of cloaths. A decoction of it applied externally cures the itch. The Germans use it instead of Sarsaparilla in venereal complaints.

181 P I N K. 565 Dianthus.

EMPALE. Cup cylindrical; tubular; scored; permanent; with five teeth at the mouth, and encompassed at the base with four scales; two of which are opposite and lower than the other two.

BLOSS. Petals five; Claws as long as the cup; narrow; fixed to the receptacle. Limbs flat; broadest towards the end; blunt; scolloped.

CHIVES. Threads ten; awl shaped; as long as the cup; standing wide towards the top. Tips oblong oval; compressed; fixed side-ways to the threads.

POINT. Seedbud oval. Shafts two; awl-shaped; longer than the chives. Summits curled; taper.

S.VESS. Capsule cylindrical; covered; one cell, opening at the top in four directions.

SEEDS. Many; compressed; roundish. Receptacle loose; four cornered; only half as long as the seed-vessel.

OBS. In some species the Shafts are but little longer than the chives; in others they are exceedingly long, but rolled back.

* *Flowers incorporated.*

PINK with flowers incorporated in little bundles. The scales Deptford of the cup spear-shaped; woolly; as long as the tube—*Pctals* Armeria tapering; furnished with one or two teeth; red.

Caryophyllus latifolius barbatus minor annuus, flore minore.
Ray's Syn. 337.

Caryophyllus pratensis. Gerard. 594.

Caryophyllus pratensis noster major et minor. Park. 1338.

Caryophyllus barbatus sylvestris. Baub. pin. 209.

In gravelly soils. A. July.

PINK with flowers incorporated in little heads. The scales Limewort of the cup egg-shaped; blunt; without awns; longer than the Prolifer tube—*Blossoms* red; sometimes white. They expand about eight in the morning and close about one in the afternoon.

Caryophyllus sylvestris prolifer. Baub. pin. 209. Park. 1338.
Ray's Syn. 337.

Viscaria. Gerard. 601.

Limewort. Wild childing Sweet William.

Gravelly soil. A. August.

Cows and Sheep eat it.

* * *Flowers solitary. Many upon the same stem.*

PINK. The flowers solitary; scales of the cups spear-shaped; Maiden in pairs. Blossoms scolloped.—*Bright red.* Deltoides

Caryophyllus minor repens nostras. Ray's Syn. 335.

Caryophyllus sylvestris vulgaris latifolius. Baub. pin. 209.

On heaths and in pastures. P. June—July.

Cows, Horses, Sheep and Goats eat it. Swine refuse it.

PINK. The flowers for most part solitary; scales of the cup Mountain spear-shaped; growing by fours; short. Blossoms scolloped—*Glaucus white.*

On Chedder rocks in Somersetshire. P. July.

* * * *Stem herbaceous; supporting a single flower.*

PINK. The stem generally supporting but one flower. Scales Stone of the cup egg-shaped, blunt. Petals with many clefts. Leaves Arenarius strap-shaped—*Root leaves very numerous. Stem hardly so long as ones finger. Blossoms red.*

Armeriæ species flore in summo caule singulari. Ray's Syn. 336.

On walls and very dry stony places. P. July.

The smell of the flowers is extremely fragrant in the night-time.—Cows, Horses and Sheep eat it.

Order III. Three Pointals.

182 SANDWORT. 569 Arenaria.

EMPAL. *Cup* of five leaves. *Leaves* oblong; tapering; expanding; permanent.

BLOSS. *Petals* five; egg-shaped.

CHIVES. *Threads* ten; awl-shaped. Every other thread placed more inwards. *Tips* roundish.

POINT. *Seedbud* egg-shaped. *Shafts* three; upright, but a little reflected. *Summits* rather thick.

S.VESS. *Capsule* egg-shaped; covered; with one cell; opening at the point in five different directions.

SEEDS. Many; kidney-shaped.

Chickweed
Peploides

SANDWORT. The leaves egg-shaped, sharp, fleshy—*Blossoms* white.

Alfine marina foliis portulacæ. Ray's Syn. 351.

Alfine littoralis foliis portulacæ. Baub. pin 251.

Anthyllis maritima lentifolia. Baub pin. 282. Park. 282.

Anthyllis lentifolia seu alfine cruciata marina. Gerard. 622.

Sea Chickweed.

On the sea shore. P. June—July.

Horses eat it; Sheep and Cows refuse it.

Plantain-leaved
Trinervia

SANDWORT. The leaves egg-shaped, sharp; supported on leaf-stalks; stringy—*Stem* forked; *Capsules* pendant. *Leaves* tapering at the base so as to form the leaf-stalks. *Blossoms* white.

Alfine Plantaginis folio. Ray's Syn. 349.

Plantain leaved Chickweed.

Woods and wet hedges. A. May—June.

Sheep are not fond of it.

Little
Serpyllifolia

SANDWORT. The leaves somewhat egg-shaped, sharp; fitting. Blossom shorter than the cup—*Petals* entire; white.

Alfine minor multicaulis. Baub. pin. 250. Ray's Syn. 349.

Alfine minima. Gerard. 488.

Alfine aquatica minima. Park. 1259.

Least Chickweed.

Roofs, walls, and very dry places. A. May.

Sheep refuse it.

SANDWORT.

SANDWORT. The leaves thread-shaped; sheathed with Spurry membranaceous prophylls—*The flowers open about nine or ten in the morning, and close at two or three in the afternoon.* Petals purple.

Spergula purpurea. Ray's Syn. 351.

Saginæ Spergula minima. Park. 561.

Alpine *Spergula facie minor*, seu *Spergula minor sub-cæruleo flore.* Baub. pin. 251.

1. Leaves strap-shaped; as long as the joints of the stem—*This Sea bath sometimes only five chives.* Blossoms purple; sometimes blue. *Marina*.

Alpine *Spergula facie media.* Baub. pin. 251. Ray's Syn. 351.

Purple flowered Chickweed or Spurry. 1. Sea Spurry.

In gravelly soils. 1. on the sea shore. A. June—July.

Goats refuse it. Sheep are not fond of it.

SANDWORT. The leaves awl-shaped. Stem supporting Mountain panicles of flowers. Cup with egg-shaped blunt leaves—*Petals Saxatilis white.*

Alpine *pusilla pulchro flore, folio tenuissimo nostras, seu Saxifraga pusilla caryophylloides, flore albo pulchello.* Ray's Syn. 351.

Mountain Chickweed.

On mountains. P. August.

SANDWORT. The leaves awl-shaped; stem supporting a Fine-leaved panicle of flowers. Capsules upright. Petals spear-shaped; *Tenuifolia* shorter than the cup—*white.* Little leaves which form the cup greatly tapering and marked on the underside by two green lines. Petals broad; spear-shaped; only half as long as the cup. Leaves awl-shaped; connected at the base.

Alpine *tenuifolia.* Ray's Syn. 350.

Fine-leaved Chickweed.

Dry gravelly places. P. June—July.

SANDWORT. The leaves bristle-shaped. Stem almost Larch-leaved naked towards the top. Cups somewhat hairy—*Blossom terminat-* *Laricifolia* *ing.*

Alpine *alpina junceo folio.* Baub. pin. 251.

Larch-leaved Chickweed.

On Mountains. P. August.

183 STITCHWORT. 568 Stellaria.

EMPAL. *Cup* five leaves; betwixt egg and spear-shaped; concave; upright; expanding; permanent.

BLOSS. *Petals* five; deeply divided; flat; oblong; thrivelling.

CHIVES. *Threads* ten; thread-shaped; shorter than the blossom. Every other thread shorter. *Tips* roundish.

POINT. *Seedbud* roundish. *Shafts* three; hair-like; expanding. *Summits* blunt.

S.VESS. *Capsule* egg-shaped; covered; with one cell and six valves.

SEEDS. Many; roundish; compressed.

OBS. *In the second species the tips are long and double.*

Broad-leaved
Nemorum

STITCHWORT. The lower leaves heart-shaped; on leaf-stalks. Flowers in panicles, on branching fruit-stalks.—*About a foot high. Leaves pale green on the under surface. Cups smooth. Petals white.*

Alfine montana folio smilacis instar, flore laciniato. Ray's Syn. 347.

Alfine montana latifolia, flore laciniato. Bauh. pin. 251.

Alfine hederacea montana maxima. Park. 761.

Woods, hedges and banks of rivers. P. July—August.

Greater
Holostea

STITCHWORT. The leaves spear-shaped, finely serrated. *Petals cloven—white.*

Caryophyllus holosteus arvensis glaber, flore majore. Bauh. pin. 210. Ray's Syn. 346.

Gramen leucanthemum. Gerard. 47. Park. 1325.

Woods and hedges. P. April—May.

Lesser
Graminea

STITCHWORT. The leaves strap-shaped, very entire. Flowers in panicles—*white.*

Caryophyllus holosteus arvensis glaber, flore minore. Bauh. pin. 210. Ray's Syn. 346.

Gramen leucanthemum alterum. Gerard. 47.

Gramen leucanthemum minus. Park. 1325.

1. In wet situations the leaves are larger and longer. These variations have been taken notice of by authors, as

Alfine longifolia uliginosis proveniens locis. Ray's Syn. 347.

Alfine aquatica media. Bauh. pin. 251.

Alfine fontana. Gerard. 613.

Very common. P. July.

Horses, Cows, Goats, Sheep and Swine eat it.

184. C A M P I O N. 566 Cucubalus.

EMPAL. *Cup* one leaf; tubular; with five teeth; permanent.

BLOSS. *Petals* five. *Claws* as long as the cup. *Border* flat. Limbs generally cloven; not crowned by a honey-cup.

CHIVES. *Threads* ten; awl-shaped. Every other thread fixed to the claws of the petals; five of them ripening later. *Tips* oblong.

POINT. *Seedbud* rather oblong. *Shafts* three; awl-shaped; longer than the chives. *Summits* downy; oblong; bending towards the left.

S.VESS. *Capsule* covered; tapering; with three cells, opening at the point in five different directions.

SEEDS. Many; roundish.

OBS. *This genus is distinguished from that of CATCHFLY by the blossoms not being crowned with honey-cups. The fourth species hath the chives on one plant and the pointals upon another.*

CAMPION. The cups bell-shaped; petals distant. Seed- Berry-bearing
vessels coloured. Branches straddling—*Blossoms white.* Bacciferus

Cucubalus Plinii. Ray's Syn. 267.

Alfina scandens baccifera. Bauh. pin. 250.

Berry-bearing Chickweed.

In hedges in the Isle of Anglesea. P. July.

CAMPION. The cups nearly globular; smooth; with a network of veins. Capsules with three cells. Blossoms almost naked—*white.* Bladder
Behen

1. Cultivation produces a double white, a purplish, a narrow-leaved, a smooth narrow-leaved and a hairy round-leaved purplish variety.

Lychnis sylvestris quæ benalbum vulgo. Bauh. pin. 205.
Ray's Syn. 337.

Behen album officinarum. Gerard. 678.

Papaver spumeum sive benalbum vulgo. Park. 263.

White Corn Champion. Sprattling Poppy. White Behen.

Dry pastures and cornfields. P. July.

The leaves boiled have something of the flavour of pease, and proved of great use to the inhabitants of the island of Minorca in the year 1685, when a swarm of locusts had destroyed the harvest. The Gothlanders apply the leaves to erysipelatous eruptions.—

Horses, Cows, Sheep and Goats eat it.

Dover
Viscosus

CAMPION. The lateral flowers hanging down on every side. Stem undivided. Leaves reflected at the base—*Fruit-stalks opposite; short; three flowers upon each. Cup cylindrical; with ten angles; clammy. Petals white; deeply divided. Chives longer than the blossom. Tips green. Shafts three; longer than the blossom. Fruit egg-shaped; with one cell.*

Lychnis major noctiflora dubrensis perennis. Ray's Syn. 340

On Dover Cliffs. P. July.

Catchfly
Otites

CAMPION. The chives and pointals on different plants. Petals strap-shaped; undivided—*Pale green, or white. Root-leaves lying in a circle on the ground.*

Lychnis viscosa flore muscoso. Baub. pin. 266.

Sesamoides salamanticum magnum. Gerard. 493.

Muscipula salamantica major. Park. 636.

Spanish Champion.

In gravelly soils. P. July—August.

185 CATCHFLY. 567 Silene.

EMPAL. Cup one leaf; tubular; with five teeth: permanent.

BLOSS. Petals five. Claws narrow; as long as the cup; bordered. Limb flat; blunt; frequently cloven. *Honeycup* composed of two little teeth at the neck of each petal, and constituting a crown at the mouth of the tube.

CHIVES. Threads ten; awl-shaped; every other thread fixed to the claws of the petals; and ripening later. Tips oblong,

POINT. Seedbud cylindrical. Shafts three; simple; longer than the chives, Summits bending to the left.

S.VESS. Capsule cylindrical; covered. cells three; opening at the point in five different directions.

SEEDS. Many; kidney-shaped.

* Flowers solitary, lateral.

Corn
Anglica

CATCHFLY. Hairy. Petals notched at the end. Flowers upright. Fruit on reflected, alternate fruitstalks—*The Lower Leaves inversely spear-shaped and fringed at the base. Cups not hairy, but furnished with small reflected sharp points at the angles. Blossoms white.*

Lychnis sylvestris flore albo minimo. Ray's Syn. 339.

Small campion.

Cornfields. A. June—July.

CATCHFLY.

** *Flowers lateral; crowded.*

CATCHFLY. The petals cloven. lateral flowers pointing Nottingham
all one way; drooping. Panicle nodding—*Stem simple; cylin- Nutans*
drical; a foot high; with three joints below the panicle of flowers;
beset with clammy hairs. Leaves spear-shaped; with short hairs;
root-leaves on short leaf-stalks. Petals white; narrow; cloven
more than half way down; rolled inwards in the day-time. Claws
of the blossom twice as long as the cup. Chives white; twice as long
as the claws of the petals. Shafts three; white; as long as the
chives.

Lychnis sylvestris alba IX clusii. Gerard. 470. Rays Syn.
340.

Lychnis montana viscosa alba latifolia. Baub. pin. 205.

Lychnis sylvestris alba, seu ocymoides minus album, Park.
631.

High pastures, and about Nottingham Castle. P. June—
July.

Sheep, Horses, Goats and Swine eat it. Cows refuse it.

CATCHFLY. The petals cloven. The honeycup crown Sea
slightly jointed. Flowers pointing all one way. Fruitstalks op- Amæna
posite; supporting three flowers. Branches alternate—*Stems*
spreading; rather smooth and ascending. Branches straddling;
short. Leaves smooth upon the upper surface. The angles of the cup
ten; purple and woolly. Petals white; cloven half way down.

Lychnis marina anglica. Gerard. 470. Rays Syn. 337.

Lychnis marina repens alba. Park. 638.

Sea Campion.

On the sea-shore. P. August.

*** *Flowers growing from the forks of the stem.*

CATCHFLY. The cup inclosing the fruit globular; taper- Campion
ing; with thirty scores. Leaves smooth; petals entire—*pale Conoidea*
purple.

Lychnis sylvestris angustifolia calyculis turgidis striatis. Baub.
pin. 205. Rays Syn. 341.

Greater corn Catchfly or Campion.

In gravelly soils. A.

CATCHFLY. The cup with ten angles, and with teeth as Night-flower-
long as the tube. Stem forked; petals cloven—*White tinged ing*
with red. Noctiflora

Lychnis Noctiflora. Baub. pin. 205. Park. 632. Rays Syn.
340.

Cornfields. P. July.

Broad-leaved
Armeria

CATCHFLY. The bundles of flowers flat at the top. Upper leaves heart-shaped; smooth. Petals entire—*Red*.

Lychnis viscosa purpurea latifolia lævis. Bauh. pin. 205. Rays Syn. 341.

Banks of rivers. A. August.

Moss
Acaulis

CATCHFLY. Stemless; depressed. Petals notched at the end—*Purple: sometimes pure white.*

Lychnis alpina minima. Rays Syn. 341.

Caryophylleus IX clusii Caryophyllus pumilio alpinus. Gerard. 593.

Cucubalis acaulis. Hudson. 164.

Lychnis alpina pumila folio gramineo, seu muscus Alpinus Lychnidis flore. Bauh. pin. 206.

Moss Campion.

On mountains. P. July.

Order IV. Five Pointals.

186 N A V E L W O R T. 578 Cotyledon.

EMPAL. Cup one leaf with five clefts; sharp; small.

BLOSS. One Petal; bell-shaped; with five shallow clefts.

Honeycup a hollow scale at the base of each seedbud.

CHIVES. Threads ten; awl-shaped; straight; as long as the blossom. Tips upright; with four furrows.

POINT. Seedbuds five; oblong; rather thick; ending in awl-shaped Shafts, longer than the chives. Summits simple; reflected.

S.VESS. Capsules five; oblong; distended; tapering, of one valve, opening length-ways on the inside.

SEEDS. Many; small.

Venus
Umbilicus

NAVELWORT. The leaves alternate, with central leaf-stalks; hooded: serrated and toothed. Stem branched; spikes of flowers generally upright—*Blossoms yellowish; or greenish white. Cultivation occasions some varieties.*

Cotyledon vera radice tuberosa. Ray's Syn. 271.

Cotyledon major. Bauh. pin. 289.

Umbilicus veneris. Gerard. 529. vulgaris. Park. 740.

Kidney-wort. Wall Penny-wort.

On old walls and stony places. P. May—July.

187 STONECROP.

187 STONECROP. 579 Sedum.

EMPAL. *Cup* with five divisions; sharp; upright; permanent.

BLOSS. *Petals* five; spear-shaped; taper; flat; expanding. *Honey cups* five; each consisting of a small scale; notched at the end, and fixed on the outside the base of each seedbud.

CHIVES. *Threads* ten; awl-shaped; as long as the blossom. *Tips* roundish.

POINT. *Seedbuds* five; oblong; ending in slender *Shafts*. *Summits* blunt.

S.VESS. *Capsules* five; expanding; taper; compressed; notched at the base; opening inwards along the seam.

SEEDS. Many; very small.

* *Leaves flat.*

STONECROP. The leaves nearly flat, serrated. Stem ascending. Flowers in leafy broad topped spikes—*Blossoms purple*, *Telephium* or *white*.

Telephium vulgare. *Bauh. pin.* 287.

Telephium seu crassula major vulgaris. *Park.* 726.

Crassula seu faba inversa. *Gerard.* 519.

Anacampteros, vulgo faba crassa. *Ray's Syn.* 269.

Live-long.

Roofs and walls. P. August.

Cows, Goats, Sheep and Swine eat it. Horses refuse it.

** *Leaves cylindrical.*

STONECROP. The leaves opposite; egg-shaped; blunt; fleshy. Stem weak. Flowers scattered.—*Petals white*. Round-leaved *Dasyphyllum*

Sedum minus, circinato folio. *Bauh. pin.* 283. *Ray's Syn.*

271.

Walls and roofs. P. July.

Yellow
Reflexum

STONECROP. The leaves awl-shaped; scattered; loose at the base. Lower leaves much curved backwards—*Leaves green and slender; the lower leaves bent back at the ends like hooks.* Blossoms yellow.

Sedum minus luteum ramulis reflexis. Bauh pin. 283. Ray's Syn. 270.

Aizoon scorpioides. Gerard. 513.

Vermicularis scorpioides. Park. 733.

1. There is a variety with reddish branches. Gerard. 512. Ray's Syn. 269.

Prick-madam.

Walls and roofs. P.

Rock
Rupestre

STONECROP. The leaves awl-shaped; growing in five rows; crowded; loose at the base. Flowers in tufts—*Leaves bluish green; thick.* Blossoms yellow.

Sedum minus e rupe S. Vincentii. Ray's Syn. 271.

St. Vincents Rock Stonecrop.

On St. Vincents Rock near Bristol. P. August.

Both this and the preceding species are cultivated in Holland and Germany to mix with lettuces in fallads.

White
Album

STONECROP. The leaves oblong; blunt; somewhat cylindrical; fitting; expanding. Flowers in branching tufts—*The whole plant is sometimes purple, except the flowers, which are white.*

Sedum minus teretifolium album. Bauh. pin. 283. Ray's Syn. 271.

Sedum minus officinarum. Gerard. 512.

Vermicularis flore albo. Park. 733.

Vermicularis seu Crassula minor vulgaris. Park. 734.

White flower'd Stone crop.

Walls and roofs. P. June—July.

Goats eat it, Sheep refuse it.

STONECROP.

STONECROP. The leaves somewhat egg-shaped; alternate; Pepper connected; sitting; hunched; rather upright. Flowers in tufts Acre divided into three parts—*Terminating*. Blossoms yellow.

Sedum parvum acre flore luteo. Ray's Syn. 270.

Sempervivum minus vermiculatum acre. Baub pin. 283,

Vermicularis seu Illecebra minor acris. Gerard. 517.

Illecebra minor, seu Sedum tertium Dioscoridis. Park. 736.

Wall Stonecrop, or Pepper.

Walls, roofs, rocks. P. June.

This plant continueth to grow when hung up by the root, which is a proof that it receives its nourishment principally from the air, as is the case with most of the succulent plants. It is very acrid. Applied externally it blisters. Taken inwardly it excites vomiting. In scorbutic cases, and quartan Agues it is an excellent medicine under proper management.

Goats eat it. Cows, Horses, Sheep and Swine refuse it.

STONECROP. The leaves somewhat egg-shaped; connect- Infipid ed; sitting; hunched; rather upright; in six rows; tiled—*Re- Sexangulare sembles the preceding species but the roots are not matted together and there are only two or three bunches of flowers.* Blossoms yellow.

Sempervivum minus vermiculatum insipidum. Baub. pin. 284.

Dry pastures. B. July.

Goats eat it.

STONECROP. The stem upright; solitary; annual. Leaves Mountain egg-shaped; sitting; hunched; alternate. Flowers in a tuft, Annum on curved branches—*Reddish or white; in Sweden yellow.* Leaves spotted with purple.

Sedum minimum non acre, flore albo. Ray's Syn. 270. Tab. 12. fig. 2.

In barren soils, on dry rocks, and on roofs and walls in mountainous countries. P. August.

STONECROP. The stem upright; leaves nearly flat. Fruit- Marsh stalks somewhat hairy—*Blossoms pale red, streaked with purple.* Villosum

Sedum purpureum pratense. Ray's Syn. 270.

Sedum palustre sub-hirsutum purpureum. Baub. pin. 285.

Sedum minus palustre. Gerard. 515.

Sedum arvense seu palustre flore rubente. Park. 734.

On moist rocks. A. June.

188 SPURREY. 586 Spergula.

EMPAL. *Cup* five leaves. *Leaves* egg-shaped; blunt; concave; expanding; permanent.

BLOSS. *Petals* five; egg-shaped; concave; expanding; entire: larger than the cup.

CHIVES. *Threads* ten; awl-shaped; shorter than the blossom. *Tips* roundish.

POINT. *Seedbud* egg-shaped; *Shafts* five; somewhat upright, but reflected: thread-shaped. *Summits* rather thick.

S.VESS. *Capsule* egg shaped; covered with one cell and five valves.

SEEDS. Many; globular but depressed; encompassed by a notched border.

OBS. *This genus is distinguished from the MOUSE-EAR by the petals being entire. In the second species there are only five chives.*

Corn
Arvensis

SPURREY. The leaves growing in whorls. Flowers with ten chives—*Leaves* three or six in a whorl; thread-shaped; hairy; clammy. Fruit-stalks branched. Blossoms white.

Alfine spergula dicta major. Bauh. pin. 251. Ray's Syn. 351.

Saginæ spergula. Gerard. 1125. major. Park. 562.

In gravelly soil and cornfields. A. August.

Poultry are fond of the seeds, and the inhabitants of Finland and Norway make bread of them when their crops of corn fail. Experience shews it to be very nutritious to the cattle that eat it. —Horses, Sheep, Goats and Swine eat it; Cows refuse it.

Five-chived
Pentandria

SPURREY. The leaves growing in whorls. Flowers with five chives—*Seeds* black; surrounded by a white border.

Spergula annua semine foliaceonigro, circulo membranaceo albo cincto. Ray's Syn. 351.

Small Spurrey.

In sandy places. A. July.

Knotted
Nodosa

SPURREY. The leaves opposite; awl-shaped; smooth. Stems simple—*Blossoms* terminating; white.

Alfine palustris foliis tenuissimis, seu Saxifraga palustris Anglica. Gerard. 567. Ray's Syn. 350.

Alfine nodosa Germanica. Bauh. pin. 251.

Saxifraga palustris Anglica. Park. 427.

English Marsh Saxifrage.

Moist ground. P. July—August.

189 MOUSE-EAR. 585 Ceraftium.

EMPAL. Cup five leaves. Leaves betwixt egg and spear-shaped; sharp; expanding; permanent.

BLOSS. Petals five; cloven; blunt; upright, but expanding. As long as the cup.

CHIVES. Threads ten; thread-shaped; shorter than the blossom: alternately longer and shorter. Tips roundish.

POINT. Seedbud egg-shaped. Shafts five; hair-like; upright; as long as the chives. Summits blunt.

S. VESS. Capsule betwixt egg-shaped and cylindrical; or globular. Blunt; with one cell, opening at the top, with five teeth.

SEEDS. Many; roundish.

OBS. The third species hath only five chives.

* Capsules oblong.

MOUSE-EAR. The leaves egg-shaped. Petals as large as Narrowleaved the leaves of the cup. Stems spreading.—*Resembling the next Vulgatum species, but the fruit-stalks are not clammy; the stems are more numerous and more drooping; and the outer leaves of the cup are not membranaceous at the edges.* Blossoms white.

Alfine hirsuta magno (parvo potius) flore. Bauh pin. 251.

Alfine hirsuta myosotis. Ray's Syn. 349.

Narrow-leaved Mouse-ear Chickweed.

In pastures. A. June.

MOUSE-EAR. Upright; woolly; clammy—*Blossoms white.* Broad-leaved

Alfine hirsuta myosotis latifolia præcocior. Ray's Syn. 348. Viscosum

Alfine Viscosa. Park. 768.

Alfine hirsuta altera viscosa. Bauh. pin. 251.

1. There is a variety in which the petals are smaller, and the cups three times larger than usual.

Broad-leaved Mouse-ear Chick-weed.

Dry pastures. A. April—May.

Horses and Goats eat it; Cows and Sheep refuse it.

MOUSE-EAR.

Five-chived
Semidecan-
drium

MOUSE-EAR. The flowers with five chives. Petals notched at the end—*There are five Chives with, and five without tips. Stems very short. Leaves egg-shaped; opposite; a little channelled; blunt; beset with a few very short hairs. Fruit-stalks very short; each supporting a single flower. Cup hairy; clammy; membranaceous at the edges. Petals five, narrow; white. Five honey-cup dots betwixt the perfect chives and the petals. Seedbud egg-shaped.*

Cerastium hirsutum minus parvo flore. Ray's Syn. 348. Tab. 15. fig. 1.

Alfne hirsuta minor. Bauh. pin. 251.

Least Mouse-ear Chickweed.

In pastures. A. April.

Corn
Arvense

MOUSE-EAR. The leaves betwixt strap and spear-shaped; blunt; smooth. Blossoms larger than the cup—*White.*

Caryophyllus arvensis hirsutus flore majore. Bauh. pin. 210. Ray's Syn. 348.

Caryophyllus holosteus. Gerard. 477. arvensis hirsutus. Park. 1339.

Corn Mouse-ear Chick-weed.

On heaths, in cornfields and gravelly pastures. P. May.

Mountain
Alpinum

MOUSE-EAR. The leaves betwixt egg and spear-shaped. Stem divided; capsules oblong—*The leaves are sometimes downy, at other times entirely smooth; oval and pointed. Blossoms white.*

Alfne myosotis facie, lychnis alpina, flore amplo niveo repens. Ray's Syn. 349. Tab. 15. fig. 2.

Caryophyllus holosteus alpinus latifolius. Bauh. pin. 210.

Mountain Mouse-ear Chickweed.

On mountains. P. June.

Cows and Sheep eat it.

* * Capsules nearly globular.

Marsh
Aquaticum

MOUSE-EAR. The leaves heart-shaped; fitting. Flowers solitary. Fruit pendant—*Stem slender; cylindrical; smooth; jointed; the joints red at the base. Branches few; solitary; alternate; simple; generally as long as the stem; hairy towards the ends. Blossoms white; twice as large as the cup. Petals deeply divided. Seeds yellowish red.*

Alfne aquatica major. Bauh. pin. 251.

Alfne major repens perennis. Ray's Syn. 347.

Alfne major. Gerard. 611. et maxima. Park. 759.

Marsh Mouse-ear Chickweed.

Banks of rivers. P. July.

MOUSE-EAR.

MOUSE-EAR. The leaves oblong; downy. Fruit-stalks Woolly
branched. Capsules globular—*Blossoms white.* Tomentosum

Caryophyllus holosteus tomentosus latifolius. Bauh. pin. 210.

*Alpine myosotis lanuginosa alpina grandiflora, seu auricula
muris villosa flore amplo membranaceo. Ray's Syn. 349.*

Woolly Mouse-ear Chick-weed.

1. There is a variety with narrow leaves.

On mountains. P. May.

190 COCKLE. 583 Agrostemma.

EMPAL. Cup one leaf; like leather; tubular; with five
teeth; permanent.

BLOSS. Petals five. Claws as long as the tube of the cup.
Limbs expanding; blunt.

CHIVES. Threads ten; awl-shaped; every other thread
ripening later; fixed to the claws of the petals.
Tips simple.

POINT. Seedbud egg-shaped. Shafts five; thread-shaped;
upright; as long as the chives. Summits simple.

S.VESS. Capsule oblong egg-shaped; covered, with one
cell and five valves.

SEEDS. Many; kidney-shaped; dotted. Receptacles equal
in number to the seeds; loose; the inner ones gra-
dually longer than the others.

COCKLE. Hairy-cup as long as the blossom. Petals entire; Corn
naked—purple; sometimes white, and by cultivation yellow. Githago

Lychnis segetum major. Bauh. pin. 204. Ray's Syn. 338.

Lychnoides segetum five nigellastrum. Park. 632.

In cornfields. A. June.

Horses, Goats and Sheep eat it.

191 CUCKOWFLOWER. 584 *Lychnis*.

EMPAL. *Cup* one leaf; tubular; membranaceous; with five teeth; permanent.

BLOSS. *Petals* five. *Claws* as long as the cup; flat; bordered. *Limbs* flat; frequently cloven.

CHIVES. *Threads* ten; longer than the cup, alternately ripening later and fixed to the claws of the petals. *Tips* fixed side-ways to the threads.

POINT. *Seedbud* nearly egg-shaped. *Shafts* five; awl-shaped; longer than the chives. *Summits* downy; bent towards the left.

S.VESS. *Capsule* nearly egg-shaped; covered. *Valves* five; cells five.

SEEDS. Many; roundish.

OBS. In the *Campion CUCKOWFLOWER* the chives are upon one plant and the pointals upon another. The *Clammy CUCKOWFLOWER* hath undivided petals, and capsules with five cells.

Meadow
Flos-cuculi

CUCKOWFLOWER. The petals with four clefts. Fruit roundish—*Stems* trailing; but upright when in flower. Blossoms red; by cultivation white; and often double.

Caryophyllus pratensis laciniato flore simplici, five flos cuculi. Baub. pin. 210.

Lychnis plumaria sylvestris simplex. Park. 253. Ray's Syn. 338.

Armerius pratensis mas et fœmina. Gerard. 600.

Meadow Pinks. Wild Williams. Cuckowflower. Ragged Robin.

In meadows. P. June.

Horses, Sheep and Goats eat it.

It is the food of a sort of Louse, the *Aphis Cucubali*.

Clammy
Viscaria

CUCKOWFLOWER. The petals nearly entire—The upper joints of the stem are anointed with a reddish black viscid substance, like tar. Stem upright, simple. Blossoms red; by cultivation white, and sometimes double.

Lychnis sylvestris viscosa rubra angustifolia. Baub. pin. 205. Park. 636. Ray's Syn. 340.

Muscipula angustifolia. Gerard. 601.

Red German Catchfly.

High pastures. P. May—June.

The Catchfly Weevil, *Curculio viscaria*, is found upon it.

CUCKOWFLOWER.

CUCKOW-FLOWER. The flowers with chives on one *Campion*. plant, and flowers with pointals on a different plant—*Red*, or *Dioica* *white*. Sometimes the chives and pointals are in the same flower. By cultivation the blossoms become double.

Lychnis sylvestris albo flore. Gerard. 468. Park. 630. Ray's Syn. 339.

Lychnis sylvestris alba simplex. Baub. pin. 204.

1. When the flower is red it hath been considered as a variety by the following authors.

Lychnis sylvestris rubello flore. Gerard. 469. Ray's Syn.

339.

Lychnis sylvestris flore rubro. Park. 631.

Lychnis sylvestris, seu aquatica purpurea simplex. Baub. pin. 204.

White or red *Campion*. Batchelor's Buttons.

Woods and hedges. P. May—July.

The *Campion* Louse, *Aphis Lychnidis*, lives upon it.

192 WOODSORREL. 582 Oxalis.

EMPAL. Cup with five divisions; sharp; very short; permanent.

BLOSS. With five divisions, connected by the claws; upright; blunt; with the margin broken.

CHIVES. Threads ten; hair-like; upright; the outermost the shortest. Tips roundish; furrowed.

POINT. Seedbud with five angles. Shafts five; thread-shaped; as long as the chives. Summits blunt.

S. VESS. Capsule with five corners, and five cells; opening lengthways at the corners.

SEEDS. Nearly round; bursting out of the feed-vessel.

OBS. In some species the Capsule is short and the Seeds solitary; in others it is long and the Seeds many.

WOODSORREL. The stalk supporting a single flower. Leaves growing by threes, Root scaly; jointed—In rainy weather the leaves stand upright, but in dry weather they hang down. *Acetous* *Acetosella* Blossoms pale purple.

Oxys alba. Gerard. 1201. Ray's Syn. 281.

Trifolium acetosum vulgare. Baub. pin. 330. Park. 746.

Cuckow-bread. Sour Trefoil.

Woods and moist shady lanes. P. April.

It is likewise found upon mountains; and Linnæus somewhere observes, that the plants which chiefly grow upon mountains are hardly found any where else but in marshes. Is it because the clouds resting upon the tops of the mountains, keep the air in a moist

a moist state, like the fogs in meadows and marshes, which are nothing but clouds in the lower part of the atmosphere?

The juice is gratefully acid. The London College directs a Conserve to be made of the leaves beaten with thrice their weight of fine sugar. The expressed juice depurated properly evaporated, and set in a cool place, affords a chrySTALLINE acid salt in considerable quantity, which may be used wherever vegetable acids are wanted. An Infusion of the leaves is an agreeable liquor, in ardent Fevers.—Sheep, Goats and Swine eat it. Cows are not fond of it; Horses refuse it.

Yellow-flow-
ered
Corniculata

WOODSORREL. The fruit-stalks forming rundles. Stem branched, spreading—*Leaves growing by threes; on leaf-stalks; Capsules long and pointed. Blossoms yellow.*
Trifolium acetosum corniculatum. Bauh. pin. 230.
In the country about Exeter. A. May—October.

CLASS IX.

TWELVE CHIVES.

NOTWITHSTANDING the title of this Class, the number of Chives is not very certain; some of the Flowers containing more, and some of them fewer than twelve; so that it is necessary to take in another circumstance, (viz.) that in this Class the Chives are fixed to the RECEPTACLE, but in the next Class they are fixed to the CUP.

The different species of SPURGE are generally supposed difficult to investigate, but the young Botanist will soon learn to distinguish them by attending to the following circumstances.

Whether the	{	<i>Root</i> is annual, biennial, or perennial. Whether the plant in question is a shrub, and if so, whether it is thorny, or prickly, or neither.
		<i>Stem</i> is naked, cylindrical, or angular.
		<i>Leaves</i> are opposite or alternate; and of what shape.
		<i>Rundle</i> is general or partial; how divided and how fenced.
		<i>Flowers</i> have only chives, or both chives and pointals.
		<i>Petals</i> are entire; crescent-shaped or hand-shaped, &c.
		<i>Capsules</i> are hairy, warty, or smooth.

ORDER I. ONE POINTAL.

- 193 ASARABACCA. *Bloss.* none. *Cup* three clefts; superior. *Capsule* with six cells.
- 194 GRASSPOLY. *Bloss.* six petals. *Cup* twelve clefts; beneath. *Capsule* with two cells.

Order II. Two Pointals.

- 195 AGRIMONY. *Bloss.* five petals. *Cup* with five clefts; *Seeds* one, or two.

Order III. Three Pointals.

- 196 YELLOW-WEED. *Bloss.* Petals with many clefts. *Cup* divided. *Capsule* with one cell; gaping.
- 197 SPURGE. - - *Bloss.* Petals fixed by the center. *Cup* distended. *Capsules* three berries.

Order IV. Four Pointals.

+ *Upright Tormentil.*

Order VII. Twelve Pointals.

- 198 HOUSESLEEK. *Bloss.* twelve petals. *Cup* with twelve divisions. *Capsules* twelve.

193 ASARA-

193 ASARABACCA. 589 Asarum.

EMPAL. *Cup* one leaf; bell-shaped; with three shallow clefts; like leather; coloured; permanent. *Segments* upright; with the point bent inwards.

BLOSS. None.

CHIVES. *Threads* twelve; awl-shaped; half as long as the cup. *Tips* oblong; growing to the middle of the threads.

POINT. *Seedbud* either beneath; or else hidden within the substance of the cup, *Shaft* cylindrical; as long as the chives. *Summit* starry; with six reflected divisions.

S. VESS. *Capsule* like leather; generally with six cells; inclosed within the substance of the cup.

SEEDS. Many; egg-shaped.

ASARABACCA. The leaves growing in pairs; blunt; Common kidney-shaped—*Blossoms* purplish. Europæum

Asarum. *Bauh. pin.* 197. *Ray's Syn.* 158.

Asarum vulgare. *Park.* 266. *Gerard.* 836.

In woods. P: May.

The root powdered and taken to the amount of thirty or forty grains excites vomiting. If it is coarsely powdered it generally purges. The powder of the leaves is the basis of most of the Cephalic Snuffs, which occasion a considerable discharge of mucus from the nostrils without much sneezing.—Cows eat it.

194 GRASSPOLY. 604 Lythrum.

EMPAL. Cup one leaf ; cylindrical ; scored ; with twelve teeth ; every other tooth smaller.

BLOSS. Petals six ; oblong ; rather blunt ; expanding ; fixed by the claws to the divisions of the cup.

CHIVES. Threads twelve ; thread-shaped ; as long as the cup. The upper threads shorter than the lower ones. Tips simple ; rising.

POINT. Seedbud oblong. Shaft awl-shaped ; declining ; as long as the chives. Summit round and flat ; rising.

S. VESS. Capsule oblong ; taper ; covered. Cells two.

SEEDS. Numerous ; small.

OBS. In the second species there are only six chives.

Purple
Salicaria

GRASSPOLY. The leaves opposite ; betwixt heart and spear-shaped ; flowers with twelve chives ; growing in spikes—Stem four cornered ; firm ; branched. Blossoms purple.

Salicaria vulgaris purpurea, foliis oblongis. Ray's Syn. 367.

Lyfimachia purpurea. Park. 546. Gerard. 476.

Lyfimachia spicata purpurea. Bauh. pin. 246.

Purple spiked Loofestriſe, or Willow-herb.

These are the varieties.

1. Leaves soft, long, and four together.

2. Leaves shorter and broader.

3. Stem with six corners ; Leaves three together.

Banks of rivers. P. July.

Horses, Cows, Sheep and Goats eat it.

Six-chived
Hyssopifolia

GRASSPOLY. The leaves alternate ; strap-shaped. Flowers with six chives—Blossoms at the base of the leaves ; pale blue.

1. Cultivation gives rise to several varieties, viz. white blossomed ; blue ; broad-leaved white, and broad-leaved blue.

Salicaria Hyssopifolio latiore et angustiore. Ray's Syn. 367.

Hyssopifolia. Bauh. pin. 218.

Gratiola angustifolia. Gerard. 581. seu minor. Park. 220.

Small Hedge Hyssop.

In watery places and shallow ponds. A. August—September.

Order II. Two Pointals.

195 AGRIMONY. 607 Agrimonia.

EMPAL. *Cup* one leaf; with five clefts: sharp; small; superior; permanent: surrounded by another cup.

BLOSS. *Petals* five; flat; imperfect at the margin. *Claws* narrow; growing to the cup.

CHIVES. *Threads* hair-like; shorter than the blossom; fixed to the cup. *Tips* small; double; compressed.

POINT. *Seedbud* beneath. *Shafts* two; simple; as long as the chives. *Summits* blunt.

S. VESS. None. The *Cup* grows hard and closes at the neck.

SEEDS. Two; roundish.

OBS. *The number of Chives is exceedingly uncertain; in some plants there are twelve; sometimes ten; frequently seven.*

AGRIMONY. The stem leaves winged; the odd one at the Common end supported upon a leaf-stalk. Fruit covered with rough Eupatoria hairs.—*Blossoms on long terminating spikes; yellow.*

Agrimonia. Gerard. 712. Ray's Syn. 202. vulgaris. Park. 594.

Eupatorium veterum, seu agrimonia. Baub. pin. 321.

Hedges and ditch-banks. P. June.

The Canadians are said to use an Infusion of the root in burning Fevers, and with great success. An Infusion of six ounces of the crown of the root in a quart of boiling water, sweetened with honey, and half a pint of it drank three times a day, Dr. Hill says is an effectual cure for the Jaundice. He advises to begin with a vomit, afterwards to keep the bowels soluble, and to continue the medicine as long as any symptoms of the disease remain.—Sheep and Goats eat it; Cows, Horses and Swine refuse it.

Order III. Three Pointals.

196 YELLOW-WEED. 608 Refeda.

EMPAL. *Cup* one leaf; divided. *Segments* narrow; sharp; upright; permanent; two of them standing more open upon account of the honey-cup petals.

BLOSS. *Petals* several; unequal. Some with three shallow clefts. The uppermost hunched at the base; as long as the cup and containing the honey.

Honey-cup a flat upright gland; rising from the receptacle; situated betwixt the chives and the uppermost petal.

CHIVES. *Threads* from eleven to fifteen; short. *Tips* blunt; upright; as long as the blossom.

POINT. *Seedbud* hunched; ending in some very short *Shafts*. *Summits* simple.

S. VESS. *Capsule* hunched; angular; tapering to the shafts: with one cell; opening betwixt the shafts.

SEEDS. Many; kidney-shaped; connected to the angles of the capsule.

Obs. *There is hardly any genus so difficult to characterize as this; the different species varying so much both in figure and number. The essential character consists in the Petals with three Clefts, one petal bearing the honey-cup in its base, and the capsules not closed, but always gaping open.*

In the first species the cup hath four divisions, the petals are three; the uppermost petal inclosing the honey-cup hath six shallow clefts. The lateral and opposite petals have three clefts; and there are sometimes two other very small and entire petals. Shafts three; Chives many.

YELLOW-WEED. The leaves spear-shaped ; entire ; with Dyers a tooth upon each side the base. Cup with four clefts—*Flowers* Luteola in a nodding spike which follows the course of the sun through the day ; pointing towards the East in the morning, to the South at noon, and Westward in the afternoon : in the night it points to the North. These circumstances take place even in a cloudy sky. Blossoms yellow.

Luteola. Gerard. 494. Ray's Syn. 366. vulgaris. Park. 602.

Luteola herba falicis folio. Baub. pin. 100.

Wild Woad. Dyers-weed.

On barren ground, and on walls. A. June.

This plant affords a most beautiful yellow dye for cotton, woollen, mohair, silk and linen, and is constantly used by the dyers for that purpose. Blue cloths dipped in a decoction of it become green. The yellow colour of the paint called Dutch Pink, is got from this plant. The tinging quality resides in the stems and roots, and it is cultivated in sandy soils, rich soil making the stalk hollow and not so good.—Cattle will not eat it, but Sheep sometimes browse it a little.

YELLOW-WEED. The leaves with three divisions. Lower Rocket leaves winged. Blossoms yellow. Lutea

Reseda vulgaris. Baub. pin. 100. Ray's Syn. 366.

Reseda minor, seu vulgaris. Park. 823. Gerard. 277.

1. There is a variety with curled leaves.

Base Rocket.

Corn-fields and on chalk hills. A. July.

197 SPURGE. 609 Euphorbia.

EMPAL. Cup one leaf; permanent; a little coloured; distended. Mouth with four, (and in a few species with five) teeth.

BLOSS. Petals four; (in a few species five;) turban shaped; hunched; thick; lopped, irregularly situated; alternating with the teeth of the cup and fixed by their claws to its edge: permanent.

CHIVES. Threads many; (twelve or more;) thread-shaped; jointed; standing on the receptacle; longer than the blossom; appearing at different times. Tips double; roundish.

POINT. Seedbud roundish; three-cornered; standing on a little fruit-stalk. Shafts three; cloven. Summits blunt.

S.VESS. Capsule roundish; consisting of three berries and three cells opening with a spring.

SEEDS. Solitary; roundish.

OBS. The Capsule is either smooth; hairy, or warty. In some species the first flowers have Chives, but no Pointals.

Sea
Peplis.

SPURGE. Forked. Leaves very entire, the shape of half a heart. Flowers solitary; at the base of the leaves. Stems trailing—*Blossoms yellow.*

Tithymalus maritimus supinus annuus, peplis dictus. Ray's Syn. 313.

Peplis. Gerard. 503. Park. 194.

Peplis maritima folio obtuso. Baub. pin. 293.

Small Purple Sea Spurge.

On the Sea Shore. A. June.

* *Flowers in Rundles, with three divisions.*

Petty
Peplus

SPURGE. The rundle with three divisions; divisions forked. Partial fences egg-shaped. Leaves very entire; inversely egg-shaped; on leaf-stalks—*Alternate. All the flowers fertile. Petals with two horns. Fruit smooth, or only rough at the edge. Blossoms yellowish green.*

Tithymalus parvus annuus, foliis subrotundis non crenatis, peplus dictus. Ray's Syn. 313.

Peplus five esula rotunda. Baub. pin. 292. Gerard. 503.

In rich cultivated soil. A. July.

SPURGE.

SPURGE. The rundle with three divisions; divisions forked. Dwarf Partial fences spear-shaped; leaves strap shaped—*Without lateral* Exigua branches. Flowers formed of four horned petals. Little leaves of the rundle and rundlet not broader than the others. Fruit smooth. Blossoms yellow.

Tithymalus leptophyllus. Park. 193. Ray's Syn. 313.

Tithymalus five esula exigua. Baub. pin. 291.

Esula exigua tragi. Gerard. 501.

1. Leaves blunt.

2. Small; growing on rocks.

Corn-fields. A. July.

* * Flowers in Rundles with five divisions.

SPURGE. The Rundle with five divisions; divisions forked. Portland Partial fences nearly heart-shaped; concave. Leaves betwixt Portlandica strap and spear-shaped; smooth; expanding—Stems a little woody; smooth; cylindrical; reddish. Leaves alternate; on very short leaf stalks: red on the under side the base. Flowers almost sitting; yellow. The first and second flower without Pointals. Fruit smooth; angular; furnished with sharp points.

Tithymalus maritimus minor. Portlandicus. Ray's Syn. 313. Tab. 24. fig. 6.

Sea shore. S. August.

SPURGE. The rundle generally with five divisions; cloven. Marine Partial fences betwixt heart and kidney-shaped. Leaves tiled Paralias upwards—Blossoms yellowish green.

Tithymalus maritimus. Baub. pin. 291.

Tithymalus paralius. Gerard. 499. Ray's Syn. 312.

Tithymalus paralius seu maritimus. Park. 184.

Sea Spurge.

Sea shore. P. July—August.

SPURGE. The rundle with five divisions; forked. Partial Corn fences heart-shaped; sharp. Leaves betwixt strap and spear- Segetalis shaped. The upper leaves the broadest—Stem about a foot high; reddish toward the bottom. Branches at the lower part of the stem short. Leaves pale green. Petals yellow; horned. Many alternate fruit-stalks bearing rundlets arise from the base of the upper Leaves.

Tythimalus segetum longifolius. Ray's Syn. 312.

Tythimalus maritimo affinis, linariae folio. Baub. pin. 291.

Corn-fields. A. July—August.

SPURGE.

Sun
Helioscopia SPURGE. The rundle with five divisions; divisions thrice cloven, and these again forked. Partial fences inversely egg-shaped. Leaves wedge shaped; ferrated—*Alternate*. All the flowers fertile; with four entire petals. Fruit smooth. Rundle with five clefts, and five leaves. Rundlets with three clefts and three leaves. Blossoms greenish yellow.

Tithymalus helioscopius. Gerard. 498. Park. 189. Bauh. pin. 291. Ray's Syn. 313.

Wart-wort. Churn-staff.

Cultivated places; gardens. A. July.

If Sheep eat it they are purged by it, and their flesh gets a bad taste; but this is not the case with Cows.

Rough
Verrucosa SPURGE. The rundle with five divisions; divisions generally cloven into three, and these again into two. Partial fences egg-shaped. Leaves spear-shaped; ferrated; woolly. Capsules warty and woolly—*Stem cylindrical*. Rundle longer than the stem; standing wide. Flowers of the first, second, and third row, barren. Petals four; entire; yellow.

Tithymalus myrsinites fructu verrucæ simili. Bauh. pin. 291.

Tithymalus verrucosus. Park. 181. Ray's Syn. 312.

Rough-fruited Spurge.

Cornfields. B. August.

Broad-leaved
Platyphyllos SPURGE. The rundle with five divisions; divisions thrice cloven; and these again forked. Partial fences hairy on the under rib. Leaves ferrated; spear-shaped; capsules warty—*Stem upright; one foot high; smooth*. Leaves alternate; remote; expanding; with a very few hairs sometimes upon the middle rib on the under surface. Petals yellow. The upper part of the plant of a yellowish green. All the flowers fertile.

Tithymalus platyphyllos. Ray's Syn. 312.

Tithymalus arvensis latifolius germanicus. Bauh. pin. 291.

In corn-fields. A. July.

* * * Flowers in Rundles with many divisions.

Knotty-rooted
Hyberna SPURGE. The rundle with six clefts; forked. Partial fences oval. Leaves very entire. Stem without branches. Capsules warty—*The leaves oblong; sometimes hairy; sometimes smooth*. Blossoms yellowish.

Tithymalus hibernicus. Ray's Syn. 312.

Tithymalus latifolius hispanicus. Bauh. pin. 291.

In corn-fields. P. July.

SPURGE.

SPURGE. The rundle with many divisions; forked. Parti- Wood
al fences circular; perforated. Leaves blunt—*Root-leaves down- Amygdaloides*
ny on the under surface. Petals crescent shaped. Blossoms yellow.
It retains its leaves all the year.

Tithymalus characias amygdaloides. Gerard. 500. Baub. pin.
290. Ray's Syn. 312.

Tithymalus characias vulgaris. Park. 186.

Woods and hedges. P. April.

SPURGE. The rundle with many clefts; forked. Partial Red
fences perforated, notched. Leaves very entire. Stem some- Characias
what woody—*Stems thick; reddish; four feet high. Leaves spear-*
shaped; like Leather; a little downy; green. Rundles small; crowd-
ed; terminating; sitting. The first flowers without pointals, Petals
four; purple; moist. Seedbuds woolly. The Branches of one years
growth are thickest towards the top and rather woolly. The flower-
ing branches in the beginning of spring shoot out from the ends of the
other branches, and after the fruit is perfect they perish, and then
other branches spring out from the sides of the base.

Tithymalus characias rubens peregrinus. Baub. pin. 290.

Tithymalus characias monspeliensium. Gerard. 499. Park.
186. Ray's Syn. 312.

1. There is variety with yellow flowers.

Woods and hedges. S. June.

The juice of every species of Spurge is so acrid that it corrodes
and ulcerates the body wherever it is applied; so that Physicians
have seldom ventured to use it internally. Warts or Corns
anoointed with the juice presently disappear. A drop of it put
into the hollow of a decayed and aching tooth destroys the nerve
and consequently removes the pain. Some people rub it behind
the ears that it may blister, and by that means give relief.

Order VII. Twelve Pointals.

198 HOUSELEEK. 612 Sempervivum.

EMPAL. *Cup* from six to twelve divisions; concave; sharp; permanent.BLOSS. *Petals* six to twelve; oblong; spear-shaped; sharp; concave; a little larger than the cup.CHIVES. *Threads* six to twelve; awl-shaped; slender. *Tips* roundish.POINT. *Seedbuds* six to twelve; placed in a circle; upright; each ending in a *Shaft*; expanding. *Summits* sharp.S.VESS. *Capsules* six to twelve; oblong; compressed; short; placed in a circle; tapering outwards; opening on the inner side.

SEEDS. Many; roundish; small.

OES. *When in a luxuriant growth the numbers often increase, especially the number of the pointals. This genus is nearly allied to the STONECROP, but differs from that in always having more than five petals.*

Common
Tectorum

HOUSELEEK with fringed leaves and expanding offsets—*Blossoms on a crooked stalk; pale red.*

Sempervivum majus. Gerard. 508. Ray's Syn. 269.

Sedum majus vulgare. Baub. pin. 283. Park. 730,

Cyphel.

On roofs and old walls. P. July.

The juice either applied by itself, or mixed with cream, gives present relief in burns and other external inflammations. Mixed with honey it is an useful application in apthous cases.—Sheep and Goats eat it.

C L A S S XII.

T W E N T Y C H I V E S .

THIS is called the class of *Twenty Chives*, because the number of chives is generally about twenty, in most of the plants it contains; nevertheless the classic character is not to be taken from the number of chives only, but from the following circumstances, which will sufficiently distinguish it both from the preceding and from the ensuing class.

1. CUP consisting of one concave leaf.
2. PETALS fixed by the claws to the *sides* of the cup.
3. CHIVES more than nineteen; standing upon the *sides* of the cup, or upon the blossom, but *not* upon the receptacle.

Hardly any of the plants of this class are poisonous. The fruits are mostly pulpy and esculent.

ORDER I. ONE POINTAL.

199. PRUNE. - - - Cup beneath; with five clefts.
 Blossom five petals. Seed-vessel
 pulpy, including an entire
 stone.

† White Hawthorn.

Order II. Two Pointals.

200. HAWTHORN. Cup superior; with five clefts.
 Blossom five petals. Berry with
 two feeds.

Order III. Three Pointals.

201. SERVICE. - - - Cup superior; with five clefts.
 Blossom five petals. Berry with
 three feeds.

Order IV. Five Pointals.

202. MEDLAR. Cup superior; with five clefts.
 Blossom five petals. Berry with
 five feeds.
203. APPLE. - - - Cup superior; with five clefts.
 Blossom five petals. Fruit an
 Apple with five cells and many
 feeds.
204. MEADOWSWEET. Cup beneath, with five clefts.
 Blossoms five petals. Capsules
 many, collected into a ball.

Order V. Many Pointals.

205. ROSE. - - - Cup five clefts. Blossoms five pe-
 tals. Cup forming a berry;
 with many feeds.

206. BRAMBLE.

206. BRAMBLE. - - Cup five clefts. Blossoms five petals. Berry compound.
207. TORMENTIL. - Cup eight clefts. Blossoms four petals. Seeds eight; without awns.
208. AVENS. - - Cup eight clefts. Blossoms eight petals. Seeds many; with downy awns.
209. STRAWBERRY. Cup ten clefts. Blossoms five petals. Seeds many; deciduous; situated upon a receptacle resembling a berry.
210. CINQUEFOIL. - Cup ten clefts. Blossoms five petals. Seeds many; without awns.
211. BENNET. - - Cup ten clefts. Blossoms five petals. Seeds many with a jointed awn.
212. MARSHLOCKS. Cup ten clefts. Blossoms five petals. Seeds many, permanent, upon a fleshy receptacle-

† Meadow-sweet.

199 PRUNE

199 PRUNE. 620 Prunus.

EMPAL. Cup one leaf; bell-shaped; with five clefts; deciduous. Segments blunt; concave.

BLOSS. Petals five; circular; concave; large; expanding; fixed to the cup by claws.

CHIVES. Threads from twenty to thirty; awl-shaped; nearly as long as the blossom; standing on the cup. Tips double; short.

POINT. Seedbud roundish. Shaft thread-shaped; as long as the chives. Summit circular.

S.VESS. Nearly globular; pulpy; including a nut or stone.

SEED. A Nut; somewhat globular, but compressed.

Obs. The inside of the cup in some, if not in all the species, is covered with a number of small glands which make an appearance like a hoar-frost. In the Bullace PRUNE there are sometimes two pointals.

Birds-cherry
Padus

PRUNE. The flowers in bunches. Leaves deciduous; with two glands on the under side of the base—Petals serrated; white. Fruit black.

Cerasus avium nigra et racemosa. Gerard. 1504. Ray's Syn. 463.

Cerasus racemosa sylvestris fructu non eduli. Baub. pin. 451.

Cerasus avium racemosa. Park. 1517.

Wild cluster Cherry. Birds Cherry.

Woods and hedges. S. May.

It grows well in woods, groves or fields, but not in a moist soil. It bears lopping and suffers the grass to grow under it. The fruit is nauseous, but bruised and infused in wine or brandy it gives it an agreeable flavour. A strong decoction of the bark is used by the Finlanders to cure venereal complaints; and a decoction of the berries is sometimes given with success in the dysentery. The wood being smooth and tough is made into handles for knives and whips.—Sheep, Goats and Swine eat it. Cows are not fond of it. Horses refuse it.

Black-cherry
Cerasus

PRUNE. The flowers in rundles on very short fruit-stalks. Leaves betwixt egg and spear-shaped; glossy; doubled together—Props toothed. Floral Leaves cloven into three segments. The terminating Buds producing leaves; but the lateral Buds producing flowers. Blossoms white. Fruit black.

Cerasus sylvestris fructu nigro. Ray's Syn. 463.

Cerasus sylvestris ac major, fructu sub-dulci, nigro colore inficiente. Baub. pin. 450.

Black Cherry. Mazzards.

Woods and hedges. S. April,

It

It loves a sandy soil, and an elevated situation. The gum that exsudes from this tree is equal to gum arabic. Hasselquist relates that more than an hundred men, during a siege, were kept alive for near two months without any other sustenance than a little of this gum taken into the mouth sometimes, and suffered gradually to dissolve. The common people eat the fruit either fresh or dried; and it is frequently infused in brandy for the sake of its flavour. The wood is hard and tough. It is used by the turner, and is formed into chairs and stained to imitate mahogany. This tree is the original stock from which many of the cultivated kinds are derived.

PRUNE. The flowers in rundles; sitting. Leaves betwixt Cherry egg and spear-shaped; downy beneath: doubled together—*Avium Blossoms white. Fruit red.*

Cerasus sylvestris fructu rubro. Ray's Syn. 463.

Common wild Cherry-tree.

Woods and hedges. S. April.

It grows best in a rich soil on the sides of hills, unmixed with other trees. It bears cropping, and suffers the grass to grow under it.

PRUNE. The fruit-stalks either in pairs, or solitary. Leaves Plumb betwixt spear and egg-shaped: rolled in a spiral. Branches with- *Domestica* out thorns.—

Prunus. Baub. pin. 443.

1. Fruit red; acerb and ungrateful to the taste. *Ray's Syn. 463.*

2. Fruit large; white. *Ray's Syn. 462. White Bullace-tree.*

In hedge rows. S. April.

It loves a lofty exposure, and is favourable to pasturage. The varieties have probably originated from the red and white cultivated plumb, either sown by design or accident. The cultivated garden plumbs are derived from this species.

PRUNE. The fruit-stalks growing in pairs. Leaves egg-Bullace shaped; somewhat woolly: rolled in a spiral. Branches thorny *Infinitia* —*Branches reddish brown, smooth: some of them terminating in a thorn. Props narrow: fringed; sharp; cloven at the base. Upper surface of the leaves smooth. Cups smooth. Blossoms white. Fruit black.*

Prunus sylvestris major. Ray's Syn. 462.

Prunus sylvestria præcocia. Baub. pin. 444.

Black Bullace-tree.

In hedges. S. April.

The fruit is acid, but so tempered by a sweetness and roughness as not to be unpleasant, particularly after it is mellowed by the frosts. A conserve is prepared by mixing the pulp with

U

thrice

thrice its weight of sugar. The bark of the roots and branches is considerably styptic. An infusion of the flowers sweetened with sugar is a mild purgative, not improper for children.

Blackthorn
Spinosa

PRUNE. The fruit-stalk solitary. Leaves spear-shaped; smooth. Branches thorny—*Props strap-shaped; serrated and toothed; the ends of the teeth appearing as if dead.* Blossoms white. Fruit black.

Prunus sylvestris. Gerard. 1497. Park. 1033. Baub pin. 444. Ray's Syn. 462.

Black-thorn. Sloe-tree. Scrogs.

In hedges. S. March—April.

This is not well adapted to grow in hedges, because it spreads its roots wide, and encroaches upon the pasturage; but it makes good dead fence. The wood is hard and tough, and is formed into teeth for rakes, and walking sticks. The thorns have something of a poisonous nature in the autumn. The tender leaves dried, are sometimes used as a substitute for East India tea. The Fruit bruised and put into wine gives it a beautiful red colour, and a pleasant sub-acid roughness. An infusion of a handful of the flowers is a safe and easy purge. Letters written upon linen or woollen with the juice of the fruit will not wash out.—Sheep, Goats and Horses eat it.

The different species of PRUNE furnish nourishment to the following insects.

White black-veined Butterfly. *Papilio Cratægi.*

Great tortoise-shell Butterfly. *Papilio Polychloros.*

Brown hair-streak Butterfly. *Papilio Betulæ.*

Lappit Moth. *Phalæna quercifolia.*

Great Egger Moth. *Phalæna quercus.*

Small Egger Moth. *Phalæna lanestris.*

Black-thorn Moth. *Phalæna cæruleocephala.*

Emperor Moth. *Phalæna pavonia.*

Lackey Moth. *Phalæna neustria.*

Ealings Glory. *Phalæna Oxyacanthæ.*

Sallow Moth. *Phalæna Citrigo.*

Orange Moth. *Phalæna prunaria.*

- - - - - *Phalæna brumata.*

Prune Louse. *Aphis Padi.*

Cherry Curculio. *Curculio cerasi.*—*Pruni.*

Garden Beetle. *Scarabæus horticola.*

Order

Order II. Two Pointals.

200 HAWTHORN. 622 Cratægus.

EMPAL. *Cup* one leaf; concave; expanding; with five teeth; permanent.

BLOSS. *Petals* five; circular; concave; fitting; fixed to the cup.

CHIVES. *Threads* twenty; awl-shaped: fixed to the cup. *Tips* roundish.

POINT. *Seedbud* beneath. *Shafts* two; thread-shaped; upright. *Summits* with knobs.

S. VESS. *Berry* fleshy; nearly globular; dimpled.

SEEDS. Two; rather oblong; separate; gristly.

OBS. *The white Hawthorn hath generally only one pointal, and one seed.*

HAWTHORN. The leaves egg-shaped; jagged; serrated; Whitebean downy underneath—*Blossoms* white. Fruit red.

Mespilus alni folio subtus incano, Aria Theophrasti dicta. Aria
Ray's Syn. 453.

Aria Theophrasti. Gerard. 1327.

Sorbus sylvestris Aria Theophrasti dicta. Park. 1421.

Alni effigie, lanato folio major. Baub. pin. 452.

Whitebean tree.

Woods and hedges in hilly countries. S. May.

It loves dry hills and open exposures, and flourishes either in gravel or clay. It bears lopping and permits the grass to grow. The wood, being hard, tough and smooth, is used for axle-trees, wheels, walking-sticks, carpenters and other tools. The fruit is eatable when mellowed by the autumnal frosts. An ardent spirit may be distilled from it. It seldom bears a good crop of fruit two years together.

Sheep and Goats eat it.

HAWTHORN. The leaves heart-shaped; with seven an- Service
gles. The lower lobes straddling—*Blossoms* white. Fruit reddish Torminalis
brown.

Mespilus apii folio sylvestris non spinosa, seu sorbus torminalis. Baub. pin. 454. Ray's Syn. 453.

Sorbus torminalis. Gerard. 1471. seu vulgaris. Park. 1420.

Common wild service-tree, or forb.

Woods and hedges. S. April.

There are varieties with leaves more or less round, jagged and serrated

White
Oxyacantha

HAWTHORN. The leaves blunt ; with about three clefts ; ferrated—*Blossoms white ; sometimes with a reddish tinge, as in many parts of Worcestershire. There is often but one pointal and one seed in each flower. Fruit a coral red.*

Mespilus apii folio fylvestris spinosa, seu oxyacantha. Baub. pin. 454. Ray's Syn. 453.

Oxyacanthus. Gerard. 1325.

Spina appendix vulgaris. Park. 1025.

1. There is one variety in which the leaves and fruit are larger ;
 2. Another with double blossoms and smaller fruit : and a third
 3. that blossoms twice in the year, called the Glastonbury-thorn.
- White-thorn. Haw-thorn.

Hedges and woods. S. May. 3 At Glastonbury in Somersetshire and about Reading in Berkshire.

Upon account of the stiffness of its branches, the sharpness of its thorns, its roots not spreading wide, and its capability of bearing the severest winters without injury, this plant is universally preferred for making hedges, whether to clip or to grow at large. The wood is tough, and is formed into axletrees and handles for tools. The berries are the winter food of Thrush and many other birds.

This genus supports the following insects.

White black-veined Butterfly. *Papilio Cratægi.*

Black-thorn Moth. *Phalæna Cæruleocephala.*

Ealings Glory. *Phalæna Oxyacantha.*

Brimstone Moth. *Phalæna Cratægata.*

Order III. Three Pointals.

201 SERVICE. 623 Sorbus.

EMPAL. Cup one leaf; concave; expanding; with five teeth; permanent.

BLOSS. Petals five; circular; concave; fixed to the cup.

CHIVES. Threads twenty; awl-shaped; fixed to the cup.

Tips roundish.

POINT. Seedbud beneath. Shafts three; thread-shaped; upright. *Summits roundish.*

S.VESS. Berry soft, globular, with a hollow dimple.

SEEDS. Three; rather oblong; separate; gristly.

SERVICE.

SERVICE. The leaves winged; smooth on both sides—*Blos-* Quicken
foms white. Fruit *red.* Aucuparia

Sorbus sylvestris, foliis domesticæ similis. Baub. pin. 415.
Ray's Syn. 452.

Sorbus sylvestris, five Fraxinus bubula. Gerard. 1473.

Ornus, five Fraxinus sylvestris. Park. 1419.

Quicken-tree. Mountain Ash.

Woods and moist hedges. S. May.

1. Leaves striped with yellow.

It grows either in woods or open fields, but best on the sides of hills, and in fertile soil. It will not bear lopping. Plants grow well in its shade. The wood is soft, tough and solid. It is converted into tables, spokes for wheels, shafts, chairs, &c. The roots are formed into handles for knives and wooden spoons. The berries dried and reduced to powder make wholesome bread; and an ardent spirit may be distilled from them which has a fine flavour, but it is small in quantity. The berries too, under proper management, make an acid liquor somewhat like perry. Virgil says (*Georgica. Lib. 3.*)

— — — — — Pocula læti
 Fermento atque acidis imitantur vitea forbis.

Horses, Cows, Sheep, Goats and Swine eat it.

SERVICE. The leaves winged; woolly underneath - *Blos-* True
foms white. Fruit *brownish.* Domestica

Sorbus. Gerard. 1471. Ray's Syn. 452. fativa. Baub. pin. 415.

Sorbus legitima. Park. 1420.

Sorb.

Woods in hilly countries. S. April—May.

The fruit is mealy and austere, not much unlike the Medlar.

The *Chermes Sorbi* and the *Coccinella Bipustulata*, a sort of Lady Cow live upon both species.

T W E N T Y C H I V E S.

Order IV. Five Pointals.

202 MEDLAR. 625 Mespilus.

EMPAL. Cup one leaf; concave; expanding; with five teeth; permanent.

BLOSS. Petals five; circular; concave; fixed to the cup.

CHIVES. Threads twenty; awl-shaped; fixed to the cup. Tips simple.

POINT. Seedbud beneath. Shafts five; simple; upright. Summits roundish.

S. VESS. Berry globular; with a deep hollow, but closed by the cup.

SEEDS. Five; hunched; hard as bone.

OBS. From the above description it appears that the HAWTHORN, the SERVICE, and the MEDLAR are very nearly allied, so as hardly to be distinguished otherwise than by the number of pointals. The leaves of the SERVICE are generally winged; of the HAWTHORN angular, and of the MEDLAR entire.

Common
Germanica

MEDLAR. Without thorns. Leaves spear-shaped; downy underneath. Flowers solitary, sitting—Branches woolly. Leaf-stalks very short; channelled. Cup terminating; hairy. Floral Leaf as long as the blossom; which is white. Fruit reddish brown.

Mespilus. Gerard. 1452. Ray's Syn. 453. vulgaris. Park. 1422.

Mespilus germanicus, folio laurino non ferrato, five mespilus sylvestris, Bauh. pin. 453.

In hedges. S. May.

Many people are fond of the fruit when it becomes soft and rotten; it is somewhat austere, and binds the bowels.

203 APPLE.

203 A P P L E. 626 Pyrus.

EMPAL Cup one leaf; concave; with five shallow clefts; permanent. Segments expanding.

BLOSS. Petals five; circular; concave; large; fixed to the cup.

CHIVES. Threads twenty; awl-shaped; shorter than the blossom; fixed to the cup. Tips simple.

POINT. Seedbud beneath; Shafts five; thread-shaped; as long as the chives. Summits simple.

S. VESS. An Apple; somewhat globular; with a hollow dimple; fleshy; with five cells; divisions membranaceous.

SEEDS. Several; oblong; blunt; taper at the base; convex on one side; flat on the other.

APPLE. With serrated leaves, and flowers in broad-topped Pear spikes—Leaves very smooth; Petals white.

Communia

Pyrus sylvestris. Gerard. 1457. Park. 1500. Bauh. pin. 439.

Pyrafter seu pyrus sylvestris. Ray's Syn. 452.

Wild Pear-tree

Woods and hedges. S. April.

1. There is a variety with leaves but little serrated, and double blossoms;

2. And another that, flowers in the autumn as well as the spring.

Cultivation hath produced a very great number of other varieties, which may be seen in *Miller's Dictionary* or *Weston's Catalogue*. It loves a fertile soil, and sloping ground; but will not thrive well in moist bottoms. It stands the severest winters, and does not destroy the grass. The wood is light, smooth, and compact; it is used by Turners and to make Joiners tools; and for picture frames to be stained black. The fruit is austere; but when cultivated highly grateful, as is proved by the great variety of excellent Pears which the industry of mankind has raised, for they all originate from this.

Horses, Cows, Sheep and Goats eat it.

It affords nourishment to the following insects:

Great Tortoise-shell Butterfly. *Papilio Polychloros*.

December Moth. *Phalæna Populi*.

Spotted Buff-moth. *Phalæna Lubricipeda*.

Lappet Moth. *Phalæna Quercifolia*.

Yellow Tussock Moth. *Phalæna Pudibunda*.

Black-thorn Moth. *Phalæna Cæruleocephala*.

- - - - - *Phalæna Brumata*.

Codling Moth. *Phalæna Pomonella*.

Pear-tree Louse. *Aphis Pyri*.

Grey Chermes. *Chermes Pyri*.

Black Curculio. *Curculio Pyri*.

Yellow-headed Fly. *Musca Pyrastræ*.

Crab
Malus

APPLE. With serrated leaves and flowers in rundles ; sitting — *Leaves more circular than those of the preceding species ; petals tinged with red on the out-side.*

Malus sylvestris. Gerard. 1461. Park. 1502. Ray's Syn. 452.

Malus sylvestria. Baub. pin. 435.

Crab-tree. Wilding.

Woods and hedges. S. May.

The industry of the Gardeners never was exerted to greater advantage than in sweetening and varying this useful fruit ; for the numerous varieties we must refer to *their Catalogues.*

It flourishes better on declivities and in shady places, than in open exposures ; or boggy lands. Grass grows well beneath it. It is much used as a stock, on which to ingraft the better kinds of apples ; because its roots are neither killed by frost, nor eaten by Field-mice. The bark affords a yellow dye. The wood is tolerably hard : it turns very clean, and when made into cogs for wheels, obtains a polish and wears a long time. The acid juice of the fruit is called by the country people Verjuice, and is much used in recent Sprains, and in other cases as an astringent or repellent. With a proper addition of sugar it is probable that a very grateful liquor may be made with the juice, but little inferior to Old Hock.—Horses, Cows, Sheep and Goats eat it. Swine are very fond of the fruit.

This species nourishes the following insects.

Gypsie Moth. *Phalena Dispar.*

December Moth. *Phalena Populi.*

Black Tuffock Moth. *Phalena Fascelina.*

Yellow-tail Moth. *Phalena Chrysorrhæa.*

Dagger Moth. *Phaleni Pfi.*

Plumb-tree Moth. *Phalena Oporana.*

- - - - - *Phalena Brumata.*

Codling Moth. *Phalena Pomonella.*

Black Arches. *Phalena Monacha.*

Apple Louse. *Aphis Mali.*

Garden Beetle. *Scarabæus Horticola.*

204 MEADOWSWEET. 630 Spiræa.

EMPAL. Cup one leaf ; with five shallow clefts ; flat at the base ; Segments sharp ; permanent.

BLOSS. Petals five ; inversely egg-shaped, but oblong ; fixed to the cup.

CHIVES. Threads more than twenty ; thread-shaped ; shorter than the blossom ; fixed to the cup. Tips roundish.

POINT. Seedbuds five or more. Shafts the same number ; thread-shaped ; as long as the chives. Summits somewhat globular.

S. VESS. Capsules oblong ; tapering ; compressed. Valves two.

SEEDS. Few ; tapering ; small.

OBS. In the first species the Capsules are numerous, and form a circle ; and in the second they are twisted like a snail shell.

MEADOWSWEET. The leaves winged ; little leaves uni- Drop-wort form ; ferrated ; stem herbaceous ; Flowers in tufts—*Blossoms* Filipendula reddish white.

Filipendula. Gerard. 1058. Park. 434. Ray's Syn. 259.

Filipendula vulgaris. Baub. pin. 163.

Drop-wort.

High pastures. P. July.

The tuberous pea-like roots dried and reduced to powder make a kind of bread, which in times of scarcity is not to be despised. Hogs are very fond of them.—Cows, Goats, Sheep and Swine eat it ; Horses refuse it.—The Eyed Willow Hawk Moth, *Sphinx Ocellata* ; and the Burnet Moth, *Sphinx Filipendula*, feed upon this and the following species.

MEADOWSWEET. The leaves winged ; with an odd one Common at the end larger than the rest ; and divided into lobes. Flowers Ulmaria in tufts—*Blossoms* yellowish white.

Ulmaria. Ray's Syn. 259.

Ulmaria vulgaris. Park. 592.

Regina prati. Gerard. 1043.

Barbara capri, floribus compactis. Baub. pin. 164.

Queen of the Meadows.

Moist meadows. P. June—July.

The flowers infused in boiling water give it a fine flavour which rises in distillation.—Sheep and Swine eat it ; Goats are extremely fond of it ; Cows and Horses refuse it.

Order

Order V. Many Pointals.

205 R O S E. 631 Rofa.

EMPAL. *Cup* one leaf. *Tube* distended; but narrow at the neck. *Border* globular; with five divisions; expanding. *Segments* long; spear-shaped; narrow.

BLOSS. *Petals* five; inversely heart-shaped; as long as the cup and fixed to its neck.

CHIVES. *Threads* many; hair-like; very short; fixed to the neck of the cup. *Tips* three-edged.

POINT. *Seedbuds* numerous; at the bottom of the cup. *Shafts* as many as there are seedbuds; closely compressed by the neck of the cup; fixed to the side of the seedbud. *Summits* blunt.

S. VESS. *Berry* fleshy; turban-shaped; coloured; soft; of one cell; crowned by imperfect segments; closed at the neck; formed by the tube of the cup.

SEEDS. Numerous; oblong; hairy; adhering to the cup.

OBS. *The cup forming the seed-vessel resembles a berry. In some species two of the segments of the cup have a little appendage on each side; the third only on one side, and the remaining two have none at all.*

Sweet-briar
Eglanteria

ROSE. The seedbuds globular; on fruit-stalks; glossy. Stem beset with straight prickles; leaf-stalks prickly and rough; leaves sharp—*Odoriferous*. Flowers *pale red or pale yellow*. Leaves *rusty on the under surface, and clammy at the ends*.

Rosa sylvestris odora. Gerard. 1272. Ray's Syn. 454.

Rosa sylvestris odora, seu Eglanteria flore simplici. Park. 418.

Rosa sylvestris foliis odoratis, Baub. pin. 483.

Eglantine.

In hedges. S. May—June.

The varieties are,

1. Blossoms red; double.
2. Blossoms full, and red.
3. Blossoms full and flesh-coloured.
4. Blossoms full and flesh-coloured; leaves evergreen.

The sweet smell of the leaves procures it a place in our gardens.

ROSE

ROSE. The seedbuds globular ; glossy ; fruit-stalks covered Burnet with strong hairs. Stem and leaf-stalks thick set with prickles. — *Spinossissima* Fruit roundish and almost black. Blossoms white.

Rosa pumila spinossissima, foliis pimpinellæ glabris, flore albo.

Ray's Syn. 455.

Rosa sylvestris pomifera minor. Baub. pin. 488.

Rosa pimpinella, seu pomifera minor. Park. 1018.

Rosa pimpinellæ folio. Gerard. 1270.

1. There is a variety with smaller leaves and a variegated blossom.

Sandy heaths. S. June.

The ripe fruit is eaten by Children ; it has a grateful subacid taste. The juice of it diluted with water dyes silk and muslin of a peach colour ; with the addition of alum a deep violet ; but it has very little effect on woollen or linnen.

Cows, Sheep, Goats and Swine eat it ; Horses refuse it.

ROSE. The feed-buds globular ; feed-buds and fruit-stalks covered with strong hairs : stem beset with prickles ; leaf-stalks prickly ; leaves downy—on both surfaces. Cups prickly. Blossoms deep red.

Rosa sylvestris pomifera major nostras. Ray's Syn. 455.

Rosa sylvestris pomifera major. Baub. pin. 484.

Rosa pomifera major. Park. 418.

On mountains. S. June.

1. There is one variety with double blossoms, and

2. Another with large feedbuds. *Ray's Syn.* 454.

ROSE. Seedbuds globular smooth. Fruit-stalks smooth. Stem White and leaf-stalks prickly. Flowers in a sort of a tuft—*Blossoms Arvensis* white. *Huds. Flor. Angl.* 192.

Rosa sylvestris altera minor, flore albo nostras. Ray's Syn.

455.

Rosa arvensis candida. Baub. pin. 484.

White flowered Dog-rose.

In hedges. S. July.

ROSE.

Hep
Canina

ROSE. The feedbuds egg-shaped: feedbuds and fruit-stalks glossy. Stem and leaf-stalks prickly—*Blossoms pale red. Berry red. Leaves five or seven together. Petals composed of two lobes. Floral-leaves two; opposite; fringed.*

Rosa sylvestris inodora, seu canina. Park. 1017. Ray's Syn. 454.

Rosa canina inodora. Gerard. 1270.

Rosa sylvestris vulgaris flore odorato incarnato. Baub. pin. 483.

Red flowered Dogs-rose. Hep-tree. Wild-briar.

In hedges. S. May—June.

1. The blossoms sometimes, but not always, have a sweet smell.

2. The leaves are sometimes variegated.

A perfumed water may be distilled from the blossoms. The pulp of the berries beat up with sugar makes the conserve of hepps of the London dispensatory. Mixed with wine it is an acceptable treat in the north of Europe. Several birds feed upon the berries. The leaves of every species of Rose, but especially of this, are recommended in the *Ephemer. Naturæ curiosor.* As a substitute, for East India tea, giving out a fine colour, a sub-astringent taste, and a grateful smell, when dried and infused in boiling water.

Cows, Sheep, Goats and Swine eat it. Horses are not fond of it.

It is a difficult matter to say which are species, and which are varieties only, in this genus; Linnæus seems to think that there are no certain limits prescribed by nature.

The different species of ROSES nourish the following insects.

Province Rose Moth. *Phalæna Salicella.*

Emperor Moth. *Phalæna Pavonia.*

Furbelow Moth. *Phalæna Libatrix.*

Spotted Elm Moth. *Phalæna Retularia.*

- - - - - *Tenthredo Rosæ.*

- - - - - *Tenthredo Cynosbati.*

- - - - - *Ichneumon Bedeguaris.*

- - - - - *Cicada Rosæ.*

Rose Louse. *Aphis Rosæ.*

Rose Chaffer. *Scarabæus Auratus.*

Rose Fly. *Musca Pellucens.*

And those Mosslike prickly excrescences which are frequently found upon the branches of Roses, especially upon the last species, are the habitations of the *Cynips Rosæ.* This excrescence was formerly in repute as a medicine, and was kept in the shops under the name of Bedeguar.

An infusion of the full blown blossoms of all the Roses, especially the paler kinds, is purgative; but the petals of the red Roses gathered before they expand, and dried, are astringent.

206 B R A M B L E. 632 Rubus.

EMPAL. *Cup* one leaf; with five divisions. *Segments* oblong; expanding; permanent.

BLOSS. *Petals* five; circular; as long as the cup; upright, but expanding; fixed to the cup.

CHIVES. *Threads* numerous; shorter than the petals; fixed to the cup. *Tips* roundish; compressed.

POINT. *Seedbuds* numerous. *Shafts* small; hairlike; growing on the sides of the seedbuds. *Summits* simple; permanent.

S. VESS. *Berry* compound; composed of little granulations collected into a knob, which is convex above and concave beneath. Each granulation hath one Cell.

SEEDS. Solitary; oblong. *Receptacle* of the seed-vessels conical.

* Shrubs

BRAMBLE. The leaves growing by fives or by threes; in Raspberry a winged manner. Stem prickly: leaf-stalks channelled—*Stems* Idæus nearly upright; two feet high. Leaves serrated; white with short down underneath. Blossoms white. Berry red.

Rubus idæus spinosus. *Bauh. pin.* 479.

Rubus idæus. *Gerard* 1272. *Park.* 557.

Rubus idæus spinosus fructu rubro. *Ray's Syn.* 467.

Raspberry bush. Framboise. Hindberry.

Woods and hedges in high stony places. S. May—June.

The varieties are,

1. White berried.
2. Without prickles.
3. Flowering in the Autumn as well as in the Spring.

The fruit is extremely grateful as nature presents it; but made into a sweetmeat with sugar, or fermented with wine, the flavour is improved. It is fragrant, sub-acid and cooling. It dissolves the tartarous concretions of the teeth, but for this purpose it is inferior to the Strawberry. The white berries are sweeter than the red, but they are generally contaminated by Insects. The fresh leaves are the favourite food of Kids.

Sheep, Goats and Swine eat it; Cows are not fond of it; Horses refuse it.

BRAMBLE.

Dewberry
Cæsius

BRAMBLE. The leaves growing by threes; almost naked. The lateral leaves consisting of two lobes; stem cylindrical; prickly—Stems three feet high; purplish; branched; with pendant shoots at the top. Leaves serrated: the middle leaf egg-shaped. Blossoms white. Fruit bluish black.

Rubus repens fructu cæsius. Baub. pin. 479. Gerard. 1271.

Rubus minor fructu cæruleo. Ray's Syn. 467.

Rubus minor; chamærubus five humirubus. Park. 1013.

Small Bramble. Dewberry-bush.

Woods and hedges. S. June—July.

The berries are pleasant to eat, and put into red wine communicate a fine flavour.

Cows, Goats and Sheep eat it; Horses refuse it.

Blackberry
Fruticosus

BRAMBLE. The leaves growing by fives, or by threes; fingered. Stem and leaf-stalks prickly—Stem rather angular, extremely long. Leaves a little woolly on the under surface. The middlemost little leaf larger than the others; heart-shaped; standing on a leaf-stalk; but the others are sitting. Blossoms white. Fruit first red and afterwards black.

Rubus vulgaris major. Park. 1013. fructu nigro. Ray's Syn. 467.

Rubus vulgaris, seu Rubus fructu nigro. Baub. pin. 479.

Common Bramble. Bumblekites.

Hedges. S. May—September.

The varieties are,

1. Fruit white.
2. Blossoms double.
3. Leaves variegated.
4. Leaves jagged.
5. Without prickles.

The berries when ripe are black, and do not eat amiss with wine. The green twigs are of great use in dying woollen, silk and mohair black.

Cows and Horses eat it; Sheep are not fond of it.

** Herbaceous.

Stone
Saxatilis

BRAMBLE. The leaves growing by threes; naked. Wires creeping along the ground; Herbaceous.—The granulations of the berries distinct, and not united as in the other species. Blossoms white, fruit red.

Rubus saxatilis. Gerard. 1272.

Rubus alpinus saxatilis. Park. 1014.

Chamærubus saxatilis. Baub. pin. 479. Ray's Syn. 261.

On stony hills. P. June.

The berries are not very good, but Children eat them.

Cows, Goats, Sheep and Swine eat it; Horses refuse it.

BRAMBLE.

BRAMBLE. The leaves undivided; lobed. Stem without prickles, supporting one flower.—*Stem hardly a foot high.* Blossoms white, or purple. Berries red. In this species the chives are found on one plant and the pointals on another; but Dr. Solander hath observed the roots of the two plants to unite under the surface of the ground.

Chamæmorus. Gerard. 173. Ray's Syn. 260.

Chamæmorus anglica. Park. 1014.

Chamæmorus foliis ribes anglica. Baub. pin. 480.

Knot-berries. Cloud-berries. Knout-berries.

In peat mosses. P. May—June.

The berries are not unpleasant. The Norwegians pack them up in wooden vessels and send them to the capital of Sweden, where they are served up in deserts. The Laplanders bury them under the snow and thus preserve them fresh from one year to another—Cows, Sheep and Goats eat it—the green Butterfly, *Papilio Rubi*; the Emperor Moth, *Phalæna Pavonia*; the Fox-coloured Moth, *Phalæna Rubi*; the black Tussock Moth, *Phalæna Fascelina*; and the Swallow-tail Moth, *Phalæna Sambucaria*, are nourished by the different species of Bramble.

207 TORMENTIL. 635 Tormentilla.

EMPALE. Cup one leaf; flat; with eight hollow clefts. Every other Segment smaller and sharper.

BLOSS. Petals four; inversely heart-shaped; flat; expanding; fixed by claws to the cup.

CHIVES. Threads sixteen; awl-shaped; half as long as the petals; fixed to the cup. Tips simple.

POINT. Seedbuds eight; small; approaching so as to form a knob. Shafts thread-shaped; as long as the chives; fixed to the sides of the seedbuds. Summits blunt.

S.VESS. None. Receptacle of the seeds very small, loaded with seeds and inclosed by the cup.

SEEDS. Eight; oblong; taper, but ending in a blunt point.

TORMENTIL.

Upright
Erecta

TORMENTIL. The stem nearly upright; leaves sitting—
Blossoms yellow.

Tormentilla. Gerard. 992. Ray's Syn. 257. vulgaris. Park.
394.

Tormentilla sylvestris. Baub. pin. 326.
Septfoil.

Barren pastures. P. June.

The roots may rank with the strongest vegetable astringents, and as such have a place in the modern practice of Physic. They are used in several countries to tan leather. Farmers find them very efficacious in the dysenteries of Cattle.

Cows, Goats, Sheep and Swine eat it; Horses refuse it.

Creeping
Reptans

TORMENTIL. The stem creeping; leaves on leaf-stalks—
Blossoms yellow.

Tormentilla reptans. Ray's Syn. 257.

Woods and barren pastures. P. July.

208 A V E N S. 637 Dryas.

EMPAL. *Cup* one leaf; with five or eight divisions. *Segments* expanding; strap-shaped; blunt; equal; somewhat shorter than the blossom.

BLOSS. *Petals* five, (or eight,) oblong; margin broken; expanding; fixed to the cup.

CHIVES. *Threads* numerous; hair-like; short; fixed to the cup. *Tips* small.

POINT. *Seedbuds* many; small; crowded together. *Shafts* hair-like; fixed to the sides of the seedbuds. *Summits* simple.

S. VESS. None.

SEEDS. Numerous; roundish; compressed; retaining the shafts, which grow very long and woolly.

Cinquefoil
Pentapetala

AVENS, with five petals; and winged leaves—Seven or nine little leaves upon each winged leaf; the lowermost the smallest. The flowering stalk twice or thrice as long as the leaves. Flowers single, terminating. This plant is probably the product of the seedbuds of the next species fertilized by the dust of one of the BENNETS. Blossoms yellow; sometimes white.

Caryophyllata pentaphyllæa. Park. 127. Ray's Syn. 254.

Caryophyllata alpina pentaphyllæa. Gerard. 995.

Caryophyllata alpina quinquefolia. Baub. pin. 322.

In the den of Bethaick in Scotland. P. June—July.

AVENS.

AVENS. With eight petals ; and simple leaves—*Egg-shaped* ; Mountain
barb ; *ferrated*. Blossoms *white* ; on *hairy fruit-stalks*. Octopetala

Caryophyllata alpina chamædryos folio. *Ray's Syn.* 252.

Chamædryos spuria montana cisti flore. *Park.* 106.

Chamædryos alpinum, cisti flore. *Bauh. pin.* 248.

Teucrium alpinum, cisti flore. *Gerard.* 659.

On lofty mountains. P. July.

Neither Cows, Horses, Sheep, Goats or Swine will eat it.

209 STRAWBERRY. 633 *Fragaria*.

EMPAL. Cup one leaf ; flat ; with ten shallow clefts. Seg-
ments alternately narrower, the narrow ones placed
on the outside the others.

BLOSS. Petals five ; circular ; expanding ; fixed to the cup.

CHIVES. Threads twenty ; awl-shaped ; shorter than the
blossom ; fixed to the cup. Tips in the shape of a
crescent.

POINT. Seedbuds numerous ; very small ; forming a knob.
Shafts simple ; fixed to the sides of the seedbuds.
Summits simple.

S.VESS. None. Receptacle of the seeds a sort of berry ;
partly globular ; partly egg-shaped ; pulpy ; soft ;
large ; coloured ; lopped at the base ; deciduous.

SEEDS. Numerous ; very small ; tapering ; scattered up-
on the surface of the receptacle.

STRAWBERRY. With creeping wires.—*Blossoms white*. Wood
Fruit red. Vesca

1. Leaves not hairy ; wrinkled. Fruit red, conical. *Wallis's*
Nat. Hist. Northumberland.

Fragaria. *Gerard.* 998. *Ray's Syn.* 254. vulgaris. *Park.* 758.
Bauh. pin. 326.

In woods and hedges. P. 1. In Northumberland. April—
May.

Cultivation hath produced the following varieties.

1. Gold-striped leaved.
2. White-fruited.—*This sometimes happens without cultivation.*
3. Double-flowering.
4. Red-bushy, without creeping wires.
5. White-bushy, without creeping wires.
6. Versailles, or one-leaved Strawberry.

The berries either eaten alone, or with sugar, or with milk, are universally esteemed a most delicious fruit. They are grateful, cooling, subacid, juicy, and have a delightful smell. Taken in large quantities they seldom disagree. They promote perspiration, impart a violet smell to the urine, and dissolve the tartarous incrustations upon the teeth. People afflicted with the Gout or Stone have found great relief by using them very largely; and Hoffman says he hath known consumptive people cured by them. The bark of the root is astringent.—Sheep and Goats eat it; Cows are not fond of it; Horses and Swine refuse it.

The Cuckow-spit Frog-hopper, *Cicada Spumaria*, is very frequently found upon it; and the *Coccus Polonicus*, a kind of Cochineal is found upon the roots.

Barren
Sterilis

STRAWBERRY. The stems drooping. Flowering branches flexible—*Suckers thick, depressed; covered with spear-shaped proprs of the colour of rusty iron. Leaves growing by threes, inversely egg-shaped; serrated; dented; flexible; hairy; white underneath. Leaf-stalks very hairy. Flowering stems thread-shaped; drooping; flexible; with a few small leaves. Flowers solitary; white; on fruit-stalks.*

Fragaria sterilis. Bauh. pin. 327. Ray's Syn. 254.

Fragaria minime vesca. Park. 758. seu sterilis. Gerard. 998.

Hedges. P. April.

210 CINQUEFOIL. 634 Potentilla.

EMPAL. *Cup* one leaf; somewhat flat; with ten shallow clefts. *Segments* alternately smaller; reflected.

BLOSS. *Petals* five; circular; or heart-shaped; expanding; fixed by claws to the cup.

CHIVES. *Threads* twenty; awl-shaped; shorter than the petals; fixed to the cup. *Tips* in the shape of a long crescent.

POINT. *Seedbuds* numerous; very small; forming a knob. *Shafts* thread-shaped; as long as the chives; fixed to the sides of the seedbuds. *Summits* blunt.

S.VESS. None. *Receptacle of the seeds* roundish; dry; very small; permanent; covered with seeds; inclosed in the cup.

SEEDS. Numerous; tapering.

* *Leaves winged.*

CINQUEFOIL. The leaves winged. Stem somewhat woody. Shrub
—*Blossoms yellow.* Fruticosa

Pentaphylloides fruticosa. Ray's Syn. 256.

Near Mickleforce in Teasdale, and several parts of Yorkshire.
S. June.

The beautiful appearance of its numerous flowers gains it admittance into low garden hedges. Besoms are made of it.—Cows, Horses, Goats and Sheep eat it; Swine refuse it.

CINQUEFOIL. The leaves winged; serrated. Stem creep. Silver
ing. Fruit stalks supporting a single flower.—*In clayey soils the Anserina leaves are white and silky.* Blossoms yellow.

Potentilla. Baub. pin. 321. Park. 593.

Pentaphylloides argentina dicta. Ray's Syn. 256.

Argentina. Gerard. 973.

Silver-weed. Wild Tansey. Goose-grass. Goose-tansy.

In fields near foot-paths. P. June—July.

The leaves are mildly astringent. Dried and powdered they are given with success in Agues. The usual dose is a meat spoonful of the powder every three hours betwixt the fits. The roots in the winter time eat like Parsneps. Swine are fond of them.—Cows, Horses, Goats and Swine eat it; Sheep refuse it.

CINQUEFOIL. The leaves winged; alternate: little leaves Upright
growing by fives; egg-shaped; scollopped. Stem upright—Rupestris
Blossoms white.

Pentaphylloides erectum. Ray's Syn. 255.

Quinquefolium fragiferum. Baub. pin. 326.

Pentaphyllum fragiferum. Gerard. 991. Park. 397.

Upright Bastard Cinquefoil.

On the sides of mountains. P. July.

Cows, Horses, Goats and Sheep eat it.

* * *Leaves fingered.*

CINQUEFOIL. The leaves growing by fives; wedge-shaped; Tormentil
jagged; downy underneath; stem upright—*Blossoms yellow.* Argentea

Pentaphyllum erectum, foliis profunde fectis, subtus argenteis,
flore luteo. Ray's Syn. 255.

Pentaphyllum rectum minus. Park. 400.

Quinquefolium folio argenteo. Baub pin. 235.

Quinquefolium tormentillæ facie. Gerard. 987.

In gravelly soil. P. June.

Goats and Swine eat it; Sheep, Horses and Cows refuse it.

Hairy
Opaca

CINQUEFOIL. The root-leaves growing by fives ; wedge-shaped ; serrated. Stem leaves nearly opposite. Branches thread-shaped ; drooping—*Blossoms yellow.*

Pentaphyllum parvum hirsutum. Ray's Syn. 255.

Pentaphyllum incanum minus repens. Gerard. 989.

Quinquefolium minus repens lanuginosum Park. 399.

Quinquefolium minus repens lanuginosum luteum. Bauh. pin. 225.

Small rough Cinquefoil.

In Yorkshire. P. June.

Spring
Verna

CINQUEFOIL. The root-leaves growing by fives ; sharply serrated ; dented. Stem leaves growing by threes. Stem declining—*Purplish ; much branched ; supporting many flowers. At the base of the petals there is a spot which is sometimes of a tawny yellow colour. Leaves sitting ; deeply serrated and a little hairy towards the ends. Petals, chives, and pointals yellow.*

Quinquefolium minus repens luteum. Bauh. pin. 325. Ray's Syn. 213.

In barren pastures. P. May—June.

Horses, Cows, Goats and Sheep eat it.

White
Alba

CINQUEFOIL. The leaves growing by fives ; approaching at the ends ; serrated. Stems thread-shaped ; trailing. Receptacle rough with hair—*Blossoms white ; solitary.*

Quinquefolium album majus. Bauh. pin. 325.

Quinquefolium sylvaticum majus flore albo. Gerard. 987.

In Wales. P. August.

Common
Reptans

CINQUEFOIL. The leaves growing by fives. Stem creeping. Fruit-stalks supporting a single flower.—*Blossoms yellow. Props in pairs ; each prop composed of three egg-shaped leaves.*

Pentaphyllum vulgatissimum. Park. 398. Ray's Syn. 255.

Quinquefolium majus. Gerard. 987. repens. Bauh pin. 325.

Five-leaved Grass.

Road-sides. P. June—Sept.

The red cortical part of the root is mildly astringent and antiseptic. A decoction of it is a good gargle for loose teeth and spongy gums.—Horses, Cows, Goats and sheep eat it.

211 BENNET. 636 Geum.

EMPAL. Cup one leaf; with ten shallow clefts; nearly upright. Segments alternately very small and sharp.

BLOSS. Petals five; rounded. Claws narrow; as long as the cup; fixed to the cup.

CHIVES. Threads numerous; awl-shaped; as long as the cup; fixed to the cup. Tips short; rather broad; blunt.

POINT. Seedbuds numerous; forming a knob. Shafts long; hairy; fixed to the sides of the seedbuds. Summits simple.

S.VESS. None. Receptacle of the seed oblong; hairy; standing upon the reflected cup.

SEEDS. Numerous; compressed; covered with strong hairs and armed with a long and crooked awn formed of the shaft.

BENNET. Flowers upright; fruit globular; hairy. Awns Awns hooked; naked. Leaves lyre-shaped—*Props toothed*. Blossoms Urbanum yellow.

Caryophyllata. Gerard. 995. Ray's Syn. 253.

Caryophyllata vulgaris. Bauh. pin. 321. Park. 136.

1. There is a variety with a larger flower; and cultivation produces striped leaves.

Common Awns. Herb-Bennet.

Woods and hedges P. June—August.

The roots gathered in the Spring before the stem grows up, and put into ale, give it a pleasant flavour and prevent its going sour. Infused in wine it is a good stomachic. Its taste is mildly austere and aromatic; especially when it grows in warm, dry situations, but in shady moist places it has little virtue.—Cows, Goats, Sheep and Swine eat it; Horses are not fond of it.

BENNET. The flowers nodding. Fruit oblong. Awns Water downy; twisted—*Blossoms purplish*. By cultivation they become Rivale double.

Caryophyllata montana purpurea. Gerard. 995. Rays Syn. 253.

Caryophyllata montana seu palustris purpurea. Park. 136.

Caryophyllata aquatica nutante flore. Bauh. pin. 321.

Water Awns.

Mountains in the North, and in bogs. P. July.

The powdered root will cure Tertian Agues, and is daily used for that purpose by the Canadians.—Sheep and Goats eat it; Cows, Horses and Swine are not fond of it.

212 MARSHLOCKS. 638 Comarum.

EMPAL. *Cup* one leaf; with ten shallow clefts; coloured, *Segments* alternately smaller, and placed under the others; permanent.

BLOSS. *Petals* five; oblong; tapering; three times smaller than the cup, to which they are fixed.

CHIVES. *Threads* twenty; awl-shaped; fixed to the cup; as long as the blossom; permanent. *Tips* in the shape of a crescent; deciduous.

POINT. *Seedbuds* numerous; roundish; very small; forming a knob. *Shafts* simple; short; fixed to the sides of the seedbuds. *Summits* simple.

S. VESS. None. *Receptacle of the seeds* shaped like a double purse; fleshy; large; permanent.

SEEDS. Numerous; taper; covering the receptacle.

Purple
Palustre

MARSHLOCKS. As there is only one species Linnæus gives no description of it—*Leaves winged. Blossoms solitary; terminating; purple.*

Pentaphylloides palustre rubrum. Ray's Syn. 256.

Pentaphyllum rubrum palustre. Gerard. 987.

Quinquefolium palustre rubrum. Baub. pin. 326.

Purple Marsh Cinquefoil.

1. There is a variety with hairy leaves.

In putrid marshes. P. June.

The root dyes a dirty red. The Irish rub their milking-pails with it, and it makes the milk appear thicker and richer. Goats eat it; Cows and Sheep are not fond of it; Horses and Swine refuse it.

CLASS XIII.

IN this Class the Chives are numerous ; and stand upon the RECEPTACLE, whereas in the preceding Class they are placed upon the sides of the cup or upon the PETALS. A regard to this circumstance of the *Situation*, is of more importance than an attention to the *Number* of the chives.

Most of the plants of this Class are poisonous

C L A S S XIII.

M A N Y C H I V E S.

ORDER I. ONE POINTAL.

- * Petals four.*
- 213 POPPY. - - Cup two leaves. Capsule with one cell; crowned.
- 214 CELANDINE. Cup two leaves. Seed-vessel a Pod.
- 215 CHRISTOPHER. Cup four leaves. Berry with one cell. Seeds in a double row.

** * Petals five.*

- 216 CISTUS. - - Capsule nearly globular. Cup five leaves; two smaller than the rest.
- 217 LIME. - - Capsule with five cells; like leather. Seed one. Cup deciduous.

† *Wild Larkspur.*

** * * Petals Many.*

- 218 WATERLILY. Berry with many cells; outer coat like bark. Cup large.

Order II. Two Pointals.

† *Burnet Iron-wort.*

Order

Order III. Three Pointals.

219 LARKSPUR. - Cup none. Blossom five petals; the upper petal horn-shaped. Honey-cup cloven; sitting.

† Dyers Yellow-weed.

Order V. Five Pointals.

220 COLUMBINE. Cup none. Blossom five petals. Honey-cups five; horned in the lower part.

Order VI. Six Pointals.

221 WATERSOLDIER. Cup with three divisions. Blossom three petals; Berry with six cells, within a sheath.

Order VII. Many Pointals.

222 TRAVELLERSJOY. Cup none. Bloss. four petals. Seeds many; with awns.

223 MEADOWRUE. Cup none. Bloss. four or five petals. Seeds many; without awns; naked.

224 HELLEBORE. Cup none. Bloss. five petals, permanent. Honey-cups many. Capsules with many seeds.

225 MEADOWBOUTS. Cup none. Bloss. five petals. Capsules many. Honey-cups none.

226 ANEMONE. - Cup none. Bloss. six petals. Seeds many.

227 GLOBEFLOWER. Cup none. Bloss. fourteen petals. Honey-cups narrow. Capsules with one seed.

228 CROWFOOT. Cup five or three leaves. Bloss. five petals. Seeds many. Petals with a honey-cup in the claw.

229 PHEASANTEYE. Cup five leaves. Bloss. five or ten petals. Seeds many; angular; covered with a thick skin.

† White Water-lily.

213 POPPY.

213 POPPY. 648 Papaver.

EMPAL. *Cup* two leaves; egg-shaped; imperfect at the margin. *Little leaves* somewhat egg-shaped; concave; blunt; shedding.

BLOSS. *Petals* four; circular; flat; expanding; large; narrowest at the base. Alternately smaller.

CHIVES. *Threads* numerous; hairlike; much shorter than the blossoms. *Tips* oblong; compressed; upright; blunt.

POINT. *Seedbud* nearly globular; large. *Shaft* none. *Summit* flat; large; radiate; crowning the seedvessel.

S.VESS. *Capsule* of one cell, divided half way into many cells; opening beneath the crown into several holes.

SEEDS. numerous; very small. *Receptacle* consists of as many longitudinal plaits, as there are rays in the summit; connected to the sides of the seedvessel.

OBS. *The Seedvessel varies in figure from globular to oblong; and the number of rays in the summit are likewise various.*

* *Capsules covered with strong hairs.*

Rough-headed
Hybridum

POPPY. The capsules somewhat globular, with protuberating knobs; and covered with strong hairs. Stem leafy; supporting many flowers — *Blossoms red.*

Papaver laciniato folio, capitulo hispido rotundiore. Ray's Syn. 308.

Argemone capitulo rotundiore. Park. 369.

Argemone capitulo brevior. Bauh. pin. 172.

Argemone capitulo torulo. Gerard. 373.

Round rough headed Poppy.

In corn-fields. A. June—July.

Long-headed
Argemone

POPPY. The capsules club-shaped; covered with strong hairs. Stem leafy; supporting many flowers — *Leaves with three divisions and winged clefts. Fruit-stalks rough. Cups set with strong hairs. Blossoms red.*

Papaver laciniato folio capitulo hispido longiore. Ray's Syn. 308.

Argemone capitulo longiore. Gerard. 373. Bauh. pin. 172. Park. 370.

Long rough-headed Poppy.

Corn-fields. A. June.

** *Capsules*

*** Capsules smooth.*

POPPY. The capsules smooth; globular; Stem hairy; sup- Corn
porting many flowers. Leaves jagged; with winged clefts— Rhæas
Hairs upon the stem expanding. Stem cylindrical: branched. Sum-
mit with twelve rays. Blossoms scarlet.

Papaver laciniato folio, capitulo brevior glabro, annuum
Rhæas dictum. Ray's Syn. 308.

Papaver rhæas. Gerard. 401. by mistake: it should be 371.

Papaver erraticum rhæas sive sylvestre. Park. 367.

Papaver erraticum majus. Bauh. pin. 171.

Red Poppy. Round smooth-headed Poppy. Cop-rose. Head-
wark. Corn-rose.

Amongst Corn. A. June—July.

The blossoms give out a fine colour, and an infusion of them
made into a syrup is kept in the shops. It partakes in a small
degree of the properties of Opium.

Sheep and Goats eat it; Horses refuse it.

POPPY. The capsules oblong; smooth. Stem supporting Smooth-head-
many flowers and set with bristles which lye close to it. Leaves ed
jagged, with winged clefts—*Blossoms red.* Dubium

Papaver laciniato folio capitulo longiore glabro. Ray's Syn.
309.

Long smooth-headed Poppy.

Cows and Goats eat it; Sheep are very fond of it; Horses
refuse it.

POPPY. The cups and capsules smooth. Leaves embracing Sleepy
the stem; jagged.—*Stem and leaves smooth. Summits ten. Blos-* Somniferum
soms white, tinged with purple. Seeds white.

Papaver sylvestre. Gerard. 370. Ray's Syn. 308.

Papaver hortense semine albo. Bauh. pin. 170.

Wild Poppy.

Uncultivated places. A. July.

Opium is nothing but the milky juice of this plant inspissated
by the heat of the Sun. The Edinburgh College direct an ex-
tract to be prepared from the heads, i. e. the seed-vessels. This
extract is supposed to be milder in its effects than the foreign
Opium, but it requires double the quantity for a dose. A syrup
is made with a decoction of the heads, and kept in the shops un-
der the name of Diacodion. The seeds are sometimes used to
make Emulsions, but they have nothing of the narcotic virtues
of the other parts of the plant.

POPPY.

Yellow
Cambrium

POPPY. The capsules smooth; oblong. Stem smooth; supporting many flowers. Leaves winged, jagged—*Summits five or six; distinct. Blossoms yellow.*

Papaver luteum perenne, laciniato folio, Cambro-britannicum. Ray's Syn. 309.

Argemone lutea Cambro-britannica. Park. 369.

In mountainous countries. P. June—August.

214 CELANDINE. 647 Chelidonium.

EMPAL. *Cup* two leaves roundish; *little leaves* somewhat egg-shaped; concave; blunt; shedding.

BLOSS. *Petals* four; circular; flat; expanding; large; narrower at the base.

CHIVES. *Threads* about thirty; flat; broader upwards; shorter than the blossom. *Tips* oblong; compressed; blunt; upright; double.

POINT. *Seedbud* cylindrical; as long as the chives. *Shaft* none. *Summit* a knob; cloven.

S. VESS. *Pod* cylindrical; generally with two valves.

SEEDS. Many; egg-shaped; shining; adhering to the little stalk that connects them with the receptacle.

Receptacle narrow; situated betwixt the seams of the valves, and applied close to the seams through their whole length. It continues entire.

OPS. *The seedvessel of the second species is a pod like two capsules; that of the third species is a pod with three valves.*

Common
Majus

CELANDINE. With fruit-stalks forming rundles—*Blossoms yellow.*

Chelidonium majus. Gerard. 1069.

Chelidonium majus vulgare. Park. 616. Bauh. pin. 144.

Papaver corniculatum luteum, chelidonia dictum. Ray's Syn. 369.

1. Jagged leaved.

Chelidonium majus foliis quernis. Bauh pin. 144.

Amongst rubbish. P. June—July.

Cultivation produces double blossoms and striped leaves.

The juice of every part of this plant is very acrimonious. It cures Tetters and Ringworms. Diluted with milk it consumes white opake spots upon the eye. It destroys warts and cures the Itch. There is no doubt but a medicine of such activity will one day be converted to more important purposes. Horses, Cows, Goats, Sheep, and Swine refuse it.

CELANDINE.

CELANDINE. With fruit-stalk supporting a single flower. Horned Leaves indented embracing the stem. Stem smooth—*The whole* Glaucium *plant of a bluish green colour. Leaves rather rough. Root leaves with winged clefts. Flowers yellow. Pods rough; partitioned into cells.*

Papaver cornutum flore luteo. Gerard. 367.

Papaver corniculatum luteum. Park. 261. Bauh. pin. 171. Ray's Syn. 309.

Yellow horned Poppy.

On the sea coast. A. July.

CELANDINE. With fruit-stalks supporting a single flower. Violet Leaves with winged clefts; strap-shaped. Stem smooth. Pods Hybridum *with three valves—This seems to have been originally produced by the dust of a species of Celandine fertilizing the seedbud of the rough beaded Poppy. Blossoms purple.*

Papaver corniculatum violaceum. Bauh. pin. 172. Ray's Syn. 309.

Papaver cornutum flore violaceo. Gerard. 367.

Papaver corniculatum flore violaceo. Park. 262.

Violet-coloured Horned Poppy.

Amongst corn. A. August.

215 CHRISTOPHER. 614 Actæa.

EMPAL. Cup four leaves. Little leaves circular; blunt; concave; shedding.

BLOSS. Petals four; tapering each way; larger than the cup; shedding.

CHIVES. Threads about thirty; hair-like; broader towards the top. Tips roundish; double; upright.

POINT. Seedbud egg-shaped. Shaft none. Summit rather thick; obliquely depressed.

S. VESS. Berry betwixt oval and globular; smooth: with one furrow, and one cell.

SEEDS. Many; semi-circular; lopped on the inner side; standing in a double row.

CHRISTOPHER. The flowers in egg-shaped bunches. Baneberry Fruit a pulpy berry—Stem slender; jointed; scored. Blossoms Spicata *white. Berries black.*

Christophoriana. Gerard. 969. Ray's Syn. 262.

Christophoriana vulgaris. Park. 379.

Aconitum racemosum. Bauh. pin. 182.

Herb Christopher, or Baneberries.

In woods and hedges in Yorkshire. P. May.—June.

This

This plant is a powerful repellent. The root is useful in some nervous cases, but it must be administered with caution. The berries are poisonous in a very high degree. It is said that toads allured by the foetid smell of this plant resort to it; but it grows in shady places, and toads are fond of damp and shady situations. — Sheep and Goats eat it; Cows Horses and Swine refuse it.

216 CISTUS. 673. Cistus.

EMPAL. Cup five leaves; permanent. Little leaves circular; concave; three of them large, with two small ones interposed.

BLOSS. Petals five; circular; flat; expanding; large.

CHIVES. Threads numerous; hair-like; shorter than the blossom. Tips roundish; small.

POINT. Seedbud roundish. Shaft simple; as long as the chives. Summit flat; circular.

S. VESS. Capsule roundish; covered by the cup.

SEEDS. Numerous; roundish; small.

OBS. The essential character of this genus consists in the two alternate smaller leaves of the Cup. In some species the capsule hath one cell and three valves; but in other species it hath five or ten cells.

Hoary
Marifolius

CISTUS. The stem somewhat woody without props; leaves opposite; oblong; on leaf stalks; flat; hoary on the under, but smooth upon the upper surface—*Blossoms yellow.*

Helianthemum alpinum folio Pilosellæ minoris Fuchsi. Ray's Syn. 342.

Cistus hirsutus. Hudson. 206.

On rocks in the Nor P. July.

1. There is a variety in which the leaves are oval and a little hairy on the upper surface. The angle-shade Moth, *Phalæna meticulosa*, feeds upon it.

Annual
Guttatus

CISTUS. The stem herbaceous; without props; leaves opposite; spear-shaped; three fibred. Flowers in bunches, without floral leaves—*Bunches of flowers very slender; the two outer and larger leaves of the cup fringed. Petals straw coloured with a red spot.*

Cistus flore pallido, punicante macula insignito. Baub. pin. 465. Ray's Syn. 343.

Cistus annuus flore maculato. Gerard. 1281.

Cistus annuus flore guttato. Park. 661.

In sandy fields. A. June.

CISTUS

CISTUS. The stem somewhat woody ; furnished with Narrow-leaved props ; trailing. Leaves oblong egg-shaped ; a little hairy : Surrejanus Petals spear-shaped—*Blossoms yellow.*

Helianthemum vulgare petalis florum perangustis. Ray's Syn.

341.

In pastures and meadows. P. July.

CISTUS. The stem somewhat woody ; trailing ; with spear-shaped props. Leaves oblong ; a little hairy ; rolled back at the edges—*Petals roundish ; very entire ; yellow. Flowers in bunches and hanging down previous to their opening. There is sometimes, but not always, a deep orange coloured spot at the base of the Petals.* Sunflower *Helianthemum*

Helianthemum vulgare. Park. 656. Ray's Syn. 341.

Helianthemum anglicum luteum. Gerard. 1282.

Chamæcistus vulgaris flore luteo. Baub. pin. 465.

1. There are two varieties, one with a white and another with

2. A rose coloured flower. The leaves too are more or less broad.

Dwarf Cistus. Little Sunflower.

Dry hills. P. July.

Goats, Sheep and Horses eat it, Swine refuse it.

CISTUS. The stem somewhat woody ; trailing ; furnished with props. Leaves oblong egg-shaped ; downy. Cups smooth. Petals ferrated—*white.* Dwarf *Polifolius*

Chamæcistus montanus polii folio. Ray's Syn. 342.

Mountain dwarf cistus.

On Brent-downs in Somersetshire, near the severn sea. P. July.

217 LIME. 660 Tilia.

EMPAL. Cup with five divisions ; concave ; coloured ; almost as large as the blossom ; deciduous.

BLOSS. *Petals* five ; oblong ; blunt ; scolloped at the end.

CHIVES. *Threads* many, (thirty or more,) awl-shaped ; as long as the blossom. *Tips* simple.

POINT. *Seedbud* roundish. *Shaft* thread-shaped ; as long as the chives. *Summit* blunt ; with five edges.

S. VESS. *Capsule* like leather ; globular ; with five cells and five valves, opening at the base.

SEEDS. Solitary ; roundish.

OBS. *In general only one seed comes to perfection, and this pushes aside the others which are barren, so that an incautious observer would be apt to pronounce that the capsule hath but one cell.*

LIME.

Linden
Europæa

LIME. The flowers without a honey-cup—*Leaves heart-shaped; serrated. Blossoms white.*

Tilia vulgaris platyphyllos. Ray's Syn. 473.

Tilia fœmina. Gerard. 1483. major. Park. 1407.

Tilia fœmina folio majore. Baub. pin. 426.

1. With smaller leaves. *Baub. pin. 426.*

2. With soft hairy leaves, and four sided fruit. *Ray's Syn. 473.*

3. With six sided seeds.

4. With variegated leaves.

Lime tree. Linden tree.

Woods and hedges. S. July.

It flourishes best on the sides of hills, but it will live very well in meadow grounds. It is easily transplanted, and grass grows beneath it; it is useful to form shady walks, and clipped hedges. The wood is soft, light and smooth; close grained and not subject to the worm. It makes good charcoal for gunpowder and for designers. It is used for leather-cutters boards and for carved work: It is also employed by the turner. The leaves are dried in some countries as winter food for Sheep and Goats. Cows eat them in the autumn; but they give a bad taste to the milk. The bark macerated in water, may be made into ropes, and fishing nets. The flowers are fragrant, and afford the best honey for Bees. The sap inspissated affords a quantity of sugar.

It affords nourishment to the following insects.

Lime-hawk Moth. *Sphinx Tiliae.*

Small Egger Moth. *Phalena lanestris.*

Gipsy Moth. *Phalena dispar.*

White-spot tussock Moth. *Phalena antiqua.*

Dagger Moth. *Phalena Pfi.*

Buff-tip Moth. *Phalena Bucephala.*

Lime Louse. *Aphis Tiliae.*

Tawny Tick. *Acarus telarius.*

218 WATERLILY. 653 Nymphæa.

EMPAL. *Cup* beneath ; with four leaves ; large ; coloured on the upper surface ; permanent.

BLOSS. *Petals* numerous, (often fifteen or more), sitting on the side of the seedbud ; not all in one row.

CHIVES. *Threads* numerous, (often seventy), flat ; crooked ; blunt ; short. *Tips* oblong ; fixed to the borders of the threads.

POINT. *Seedbud* egg-shaped ; large. *Shaft* none. *Summit* circular ; flat ; central ; sitting ; marked with rays ; scolloped at the edge ; permanent.

S. VESS. *Berry* hard ; egg-shaped ; fleshy ; rough ; narrow at the neck ; crowned at the top ; with many cells (ten or fifteen) filled with pulp.

SEEDS. Many ; roundish.

OBS. *The first species differs from the second in having its cup composed of five circular leaves, and the petals small.*

WATERLILY. The leaves heart-shaped ; very entire. Cup Yellow of five leaves ; large—*Flowers on long fruit-stalks.* Blossoms Lutea yellow.

Nymphæa lutea. Gerard. 819. Ray's Syn. 368.

Nymphæa major lutea. Bauh. pin. 131. Park. 1252.

Ditches and slow Rivers. P. August.

The roots rubbed with milk destroy Crickets and Cockroaches.

—Swine eat it ; Goats are not fond of it ; Cows, Sheep and Horses refuse it.

WATERLILY. The leaves heart-shaped ; very entire. Cup with four clefts—*The flower opens about seven in the morning ; closes about four in the afternoon and then lies down upon the surface of the water. The summits are fifteen or more ; placed in a circle ; and corresponding with as many cells in the seedvessel.* Blossoms white. White Alba

Nymphæa alba. Gerard. 819. Ray's Syn. 368. Major. Bauh. pin. 193.

Nymphæa alba major vulgaris. Park. 1251.

In slow Rivers and Ponds. P. July.

The roots are used in Ireland and in the Island of Jura to dye a dark brown.—Swine eat it Goats are not fond of it ; Cows and Horses refuse it.

Both the species support the Water Louse, *Aphis aquatilis*, and the Water Wasp Beetle, *Leptura aquatica*.

Order III. Three Pointals.

219 LARKSPUR. 681 Delphinium.

EMPAL. *Cup* none.

BLOSS. *Petals* five; unequal; placed in a circle. The uppermost petal more blunt than the rest before, but extended behind into a straight, tubular, long horn; blunt at the end. The other petals are betwixt egg and spear-shaped; expanding; nearly equal.

Honey-cup cloven; its front standing in the upper part of the circle of the petals, and its hinder part covered by the tube of the uppermost petal.

CHIVES. *Threads* many, (fifteen or thirty) awl-shaped; broadest at the base; very small; leaning towards the uppermost petal. *Tips* upright; small.

POINT. *Seedbuds* three, or one; egg-shaped; ending in *Shafts* as long as the chives. *Summits* simple; reflected.

S. VESS. *Capsules* three, or one; betwixt egg and awl-shaped; straight. With one valve, opening inwards.

SEEDS. Many; angular.

Wild
Consolida

LARKSPUR. The honey-cup of one leaf. Stem sub-divided.—*Blossoms* blue; or red, or white, or pale red, or violet.

Delphinium segetum flore cæruleo. Ray's Syn. 273.

Consolida regalis arvensis, flore cæruleo. Bauh. pin. 142.

Consolida regalis sylvestris. Gerard. 1083.

In corn-fields. A. June.

The expressed juice of the petals with the addition of a little alum makes a good blue ink. The seeds are acrid and poisonous. When cultivated the blossoms often become double.—Sheep and Goats eat it; Horses are not fond of it; Cows and Swine refuse it. The Pease-blossom Moth, *Phalena Delphinium*, lives upon it.

Order V. Five Pointals.

220 COLUMBINE. 684 Aquilegia.

EMPAL. *Cup* none.BLOSS. *Petals* five; betwixt spear and egg shaped; flat; expanding; equal.*Honey-cups* five; equal; alternating with the petals; horned; gradually widening upwards; the mouth ascending obliquely outwards; fixed to the receptacle inwardly. The lower part extended into a long tapering tube, blunt at the end.CHIVES. *Threads* many, (thirty or forty) awl-shaped; the outer ones the shortest. *Tips* oblong; upright; as tall as the honey-cupsPOINT. *Seedbuds* five; egg-shaped but oblong; ending in awl-shaped shafts, longer than the chives. *Summits* upright; simple.

Ten wrinkled, short, chaffy substances separate and inclose the seedbuds.

S. VESS. *Capsules* five; cylindrical; parallel; straight; taper; with one valve, opening from the point inwardly.

SEEDS. Many; egg-shaped and keel-shaped; fixed to the opening seam.

COLUMBINE. The honey-cups crooked. *Blossoms* blue, Common pendant; sometimes double.

Vulgaris

Aquilegia flore simplici. Ray's Syn. 273.*Aquilegia sylvestris.* Bauh. pin. 144.*Aquilegia simplex.* Park. 1367.*Aquilegia flore cæruleo.* Gerard. 1093.

Woods and hedges. P. June.

This species is cultivated in our gardens and becomes susceptible of considerable variety in the colour of the blossom; as red; purple; white; light brown; blue and white; brown and white.

Goats eat it; Sheep are not fond of it; Cows, Horses and Swine refuse it.

Mountain
Alpina

COLUMBINE. The honey-cup straight; shorter than the spear-shaped petal—*Leaves growing in double sets; three in each; small. Little leaves with many clefts. Blossoms blue.*

Aquilegia montana magno flore. Bauh. pin. 144. Ray's Hist. 767.

Woody mountains. P. June.

1. There are two varieties; one with small flowers, and another with
2. Very small flowers and white blossoms.

Order VI. Six Pointals.

221 WATERSOLDIER. 687 Stratiotes.

EMPAL. *Sheath* two leaves, inclosing a single flower; compressed, blunt, approaching, keel-shaped on each side; permanent.

Cup one leaf with three divisions; upright; deciduous.

BLOSS. *Petals* three; inversely heart-shaped; upright but expanding; twice as large as the cup.

CHIVES. *Threads* twenty; as long as the cup; fixed to the receptacle. *Tips* simple.

POINT. *Seedbud* beneath. *Shafts* six, divided down to the base; as long as the chives. *Summits* simple.

S. VESS. *Berry* covered with a capsule; oval, taper towards each end; with six sides and six cells.

SEEDS. Many; oblong; covered; generally winged.

Common
Aloides

WATERSOLDIER. The leaves sword-shaped, but triangular; fringed with prickles—*Blossoms white. The chives and pointals are generally found in the same flower, but they have been sometimes observed to be on different plants; and where they are found in the same flower the Chives are sometimes without tips.*

Stratiotes foliis aloes, semine longo. Rays Syn. 290.

Stratiotes five militaris aizoides. Park. 1249.

Militaris aizoides. Gerard. 826.

Aloe palustris. Bauh. pin. 286.

Water Aloe. Fresh-water Soldier.

In flow streams and ditches. P. June.

A great variety of insects are nourished by this plant: some of them pursue it down to the bottom of the water and devour the leaves.—Swine eat it; Goats refuse it.

Order VII. Many Pointals.

222 TRAVELLERSJOY. 696 Clematis.

EMPAL. *Cup* None.

BLOSS. *Petals* four; flexible; oblong.

CHIVES. *Threads* many; awl-shaped; shorter than the blossom. *Tips* fixed to the sides of the threads.

POINT. *Seedbuds* many; roundish; compressed; ending in awl shaped *Shafts*, longer than the chives. *Summits* simple.

S. VESS. None. *Receptacle* a small knob.

SEEDS. Many; roundish; compressed; retaining the shaft, which is variously shaped.

TRAVELLERSJOY. The leaves winged; little leaves Wild heart-shaped. Stem climbing—*Blossoms* white. *Vitalba*

Clematis sylvestris latifolia. *Baub.* pin 300. *feu Viorna. Park.* 380.

Clematis latifolia *feu atragene quibusdam.* *Ray's Syn.* 258.

Viorna. *Gerard.* 886.

Great Wild Climber. Virgin's Bower.

In hedges. S. July.

1. There is a variety with toothed leaves;

2. And another with entire leaves.

The whole plant is acrid,

223 MEADOW RUE. 697 *Thalictrum*.

EMPAL. *Cup* none; unless you call the blossom the cup.

BLOSS. *Petals* four; circular; blunt; concave; shedding.

CHIVES. *Threads* many; broadest in the upper part; compressed; longer than the blossom. *Tips* oblong; upright.

POINT. *Seedbuds* many; roundish; often standing on little foot-stalks. *Shafts* none. *Summits* thick.

S. VESS. None.

SEEDS. Many; furrowed; egg-shaped; without awns.

Obs. In some species there are long shafts.

Mountain
Alpinum

MEADOWRUE. The stem undivided; almost naked; flowers in a simple bunch, terminating—*Chives twelve. Pointals eight. Blossoms deep red.*

Thalictrum minimum montanum atro-rubens, foliis splendentibus. Ray's Syn. 204.

In wet places on mountains. P. June.

Leffer
Minus

MEADOWRUE. The leaves with six divisions. Flowers on crooked fruit-stalks—*Tips of the leaves purple, and the stem clouded with blue. Blossoms yellowish white.*

Thalictrum minus. Gerard, 1251. Park. 264. Bauh. pin. 337. Ray's Syn. 203.

1. There is a variety with broader leaves. *Ray's Syn. 204.*

In high pastures. P. July-August.

Common
Flavum

MEADOWRUE. The stem leafy; furrowed. Flowers upright; forming a panicle with many divisions—*Chives twenty-four. Pointals from ten to sixteen. Blossoms whitish. Root yellow.*

Thalictrum majus vulgare. Park. 263.

Thalictrum seu thalitrum majus. Gerard. 1251. Ray's Syn. 202.

Thalictrum majus filiqua angulosa aut striata. Bauh. pin. 336. Moist meadows. P. June.

A Cataplasm made of the leaves has been known to give relief in the Sciatica. The root dyes wool yellow.—Cows, Horses, Goats and Sheep eat it; Swine are not fond of it.

224 HELLEBORE. 702 Helleborus.

EMPAL. *Cup* none: unless you reckon the blossom such which in some species is permanent.

BLOSS. *Petals* five; circular; blunt; large.

Honey-cups many; very short; placed in a circle; consisting of one leaf; tubular; narrowest beneath.

Mouth with two lips; upright; broken at the margin; the inner lip the shortest.

CHIVES. *Threads* numerous; awl-shaped. *Tips* compressed; narrowest in the lower part; upright.

POINT. *Seedbuds* generally six; compressed. *Shafts* awl-shaped. *Summits* rather thick.

S. VESS. *Capsules* compressed; keel-shaped at both edges; the lower edge the shortest; the upper the most convex; opening.

SEEDS. Several; round; fixed to the seams.

HELLEBORE.

HELLEBORE. The stem leafy; supporting many flowers. Green
Leaves fingered—*Blossoms terminating; green. Stem upright; about* Viridis
a foot high. The root leaves often grow longer than the stem.

Helleborus niger hortensis flore viridi. Baub. pin. 185. Ray's
Syn. 271.

Helleboraster minor, flore viridante. Park, 212.

Helleborastrum. Gerard, 976.

Wild black Hellebore.

In woods and high pastures. P. April.

HELLEBORE. The stem leafy; supporting many flowers. Setterwort
Leaves like a bird's foot—*Blossoms somewhat globular, green; some-* Fætidus
times tinged with purple at the edges. Stem about a yard high.

Helleborus niger fætidus. Baub. pin. 185.

Helleboraster maximus. Gerard. 976. Ray's Syn. 271.

Helleboraster maximus, seu confiligo. Park, 212.

Great bastard black Hellebore. Bears-foot. Setterwort,

1. Leaves with three divisions.

Fields and hedges. P. March.

The dried leaves are frequently given to Children to destroy
worms, but they must be used sparingly being violent in the
operation, and instances of their fatal effects are recorded. The
country people put the root into setons made through the dew-
laps of Oxen.

225 MEADOWBOUTS, 703 Caltha,

EMPAL. Cup. none.

BLOSS. Petals five; egg-shaped; nearly flat; expanding;
large; shedding.

CHIVES. Threads numerous; thread-shaped; shorter than
the petals. Tips compressed; blunt; upright.

POINT. Seedbuds from five to ten; oblong; compressed;
upright. Shafts none. Summits simple.

S.VESS. Capsules from five to ten; short; tapering; ex-
panding; keel-shaped at both edges; opening at
the upper seam.

SEEDS. Many; roundish; enlarging; fixed to the up-
per seam.

OBS. This genus differs from the Crowfoot in wanting a cup,
from the Hellebore in having no Honeycup, and from both in having
a double row of chives.

Marigold
Palustris

MEADOWBOOTS. As there is only one species known Linnæus gives no description of it—*The inner row of chives with broad tips; the outer row twice as long, club-shaped, and the tips compressed. Leaves kidney-shaped. Blossoms yellow. Petals from five to seven; somewhat concave. Capsules sometimes more than ten.*

Caltha palustris flore simplici. Bauh. pin. 276.

Caltha palustris vulgaris simplex. Park. 1213.

Caltha palustris major. Gerard. 817.

Populago. Ray's Syn. 272.

1. There is a variety that is smaller. The blossom is sometimes double.

Marsh Marigold. Meadow-bouts.

Wet meadows. P. April.

The flowers gathered before they expand, and preserved in salted vinegar are a good substitute for Capers. The juice of the petals boiled with a little alum stains paper yellow. The remarkable yellowness of butter in the spring is supposed to be caused by this plant; but Cows will not eat it unless compelled by extreme hunger, and then Boerhaave says, it occasions such an inflammation that they generally die. Upon May-day the country people strew the flowers upon the pavement before their doors.—Goats and Sheep eat it; Cows, Horses and Swine refuse it.

226 ANEMONE. 694 Anemone.

EMPAL. None.

BLOSS. *Petals* in two or three rows; three in each row; rather oblong.

CHIVES. *Threads* numerous; hair-like; half as long the blossom. *Tips* double; upright.

POINT. *Seedbuds* numerous; forming a knob. *Shafts* taper. *Summits* blunt.

S.VESS. None. *Receptacle* globular or oblong; with hollow dots.

SEEDS. Many; taper; retaining the shaft.

Pasque
Pulsatilla

ANEMONE. The fruit-stalks furnished with a sort of distant fence. *Petals* straight. *Leaves* doubly winged—*Petals* spear-shaped: *leaves* hairy; finely divided. *Blossoms* solitary; purple.

Pulsatilla folio crassiore et majore flore. Bauh. pin. 177. Ray's Syn. 260.

Pulsatilla vulgaris. Park. 341. Gerard 385.

Pasque flower.

In high pastures. P. April.

The whole plant is acrid and blisters the skin. The juice of the petals stains paper green.

Goats and Sheep eat it; Horses, Cows and Swine refuse it.

ANEMONE.

ANEMONE. The seeds sharp; little leaves jagged; stem Wood supporting a single flower—*Blossoms white, with a tinge of purple.* Nemorosa

The varieties are

1. Double white. 2. Purple. 3. Reddish purple. 4. Double purple.

Anemone nemorosa flore majore. *Baub. pin. 176.*

Anemone nemorum album. *Gerard. 383. Ray's Syn. 259.*

Ranunculus nemorosus albus simplex. *Park. 325.*

Woods and hedges. P. April.

The flowers fold up in a curious manner against rain. The whole plant is acrid. When Sheep that are unaccustomed to it eat it, it brings on a bloody flux.

Goats and Sheep eat it; Horses, Cows and Swine refuse it.

ANEMONE. The seeds sharp; little leaves jagged; petals Mountain spear-shaped; numerous—*Blue.* Apennina

The varieties are

1. Large leaved blue. 2. Double blue. 3. Double violet coloured. 4. Large leaved white.

Anemone geranii robertiani folio cærulea. *Baub. pin. 174.*

Ranunculus nemorosus, flore purpureo-cæruleo. *Park. 325.*

Ray's Syn. 259.

Mountain-wood Anemone.

In woods. P. April.

227 GLOBEFLOWER. Trollius 700.

EMPAL. None.

BLOSS. *Petals* about fourteen; nearly egg-shaped; deciduous; three in each of the three outer rows, and five in the innermost row. *Honey-cups* nine; strap-shaped; flat; crooked; perforated on the inner-side at the base.

CHIVES. *Threads* numerous; bristle-shaped; shorter than the blossom. *Tips* upright.

POINT. *Seedbuds* numerous; sitting; like pillars. *Shafts* none. *Summits* sharp-pointed; shorter than the chives.

S.VESS. *Capsules* numerous; forming a knob; egg-shaped, with a crooked point.

SEEDS. Solitary.

GLOBEFLOWER.

Gowlans
Europæus

GLOBEFLOWER. The petals approaching: the honey-cup as long as the chives—*Blossoms globular; yellow.*

Ranunculus globosus. Gerard. 955. Park. 218. Ray's Syn. 272.

Ranunculus montanus aconiti folio, flore globofo. Bauh. pin. 182..

Locker-Gowlans.

On the sides of mountains. P. May—June.

It is cultivated in our flower gardens.

Goats, Sheep and Swine eat it; Cows and Horses refuse it.

228. CROWFOOT. 699. *Ranunculus.*

EMPAL. Cup five leaves; egg-shaped; concave; a little coloured; deciduous.

BLOSS. Petals five; blunt; shining; with small claws.

Honey-cup a little cavity, just above the claw of each petal.

CHIVES. Threads many; nearly half as long as the petals.

Tips upright; oblong; blunt; double.

POINT. Seedbuds numerous, forming a knob. Shafts none, Summits reflected; very small.

S. VESS. None. Receptacle connecting the seeds by very short foot-stalks.

SEEDS. Many; irregular; uncertain shaped; crooked at the point.

OBS. The essential character of this genus consists in the honey-cup; the other parts of the flower are inconstant. This honey-cup is in some species a naked pore; in others the pore is encompassed by a cylindrical border, and in others it is closed by a scale which is notched at the end.

In the third species the cup hath three leaves and the blossoms more than five petals. The eleventh species hath only five chives. The fifth species hath an awl-shaped receptacle, and the fruit in a spike.

In some species the seeds are roundish, in others depressed; sometimes they are beset with prickles like a Hedge-hog; and sometimes they are but few in number.

CROW

* *Leaves undivided.*

CROWFOOT. The leaves betwixt egg and spear-shaped; on leaf-stalks. Stem declining—*Blossoms deep yellow.* Spear-leaved Flammula

Ranunculus flammeus minor. Gerard. 961. Ray's Syn. 250.

Ranunculus flammeus ferratus. Gerard. 961. Park. 1214.

Ranunculus palustris flammeus minor five angustifolius. Park. 1214.

1. Leaves ferrated.

Ranunculus longifolius palustris minor, item palustris ferratus. Baub. pin. 180.

Lesser Spear-wort,

In marshy places. P. June—September.

It is very acrid. Applied externally it inflames and blisters the skin.

Horses eat it; Cows, Sheep, Goats and Swine refuse it.

CROWFOOT. The leaves spear-shaped: stem upright—*Blossoms deep yellow; terminating.* Great Lingua

Ranunculus flammeus major. Gerard. 961. Ray's Syn. 250.

Ranunculus palustris flammeus major. Park. 1215.

Ranunculus longifolius palustris major. Baub. pin. 180.

Great Spear-wort.

Moist Meadows. P. May.

CROWFOOT. The leaves heart-shaped; angular; on leaf-stalks. Stem supporting a single flower—*Petals generally eight; spear-shaped. Cup composed of three leaves. Blossoms yellow.* Pilewort Ficaria

Chelidonium minus. Gerard. 816. Park. 617. Ray's Syn. 246.

Chelidonia rotundifolia minor. Baub. pin. 309.

Ficaria verna. Hudson. 214.

Lesser Celandine,

Meadows and Pastures. P. April.

The young leaves may be eaten in the Spring along with other pot-herbs. It destroys other plants that grow near it.

Goats and Sheep eat; Cows and Horses refuse it.

The Celandine Weevils, *Curculio Dorsalis* is found upon it.

* * *Leaves dissected and divided.*

CROWFOOT. The root leaves kidney-shaped; scolloped; jagged, Stem leaves fingered, strap-shaped. Stem supporting several flowers.—*Cup united at the base, and scarce perceptibly woolly. The first flowers have sometimes only one or two petals, but as the Spring advances they have always five. Stem once or twice forked. Blossoms yellow.* Wood Auricomus

Ranunculus auricomus. Gerard. 954.

Ranunculus nemorosus dulcis. Park. 326. Ray's Syn. 248.

Ranunculus nemorosus vel sylvaticus folio rotundo. Baub. pin. 178.

Sweet Wood Crowfoot. Goldilocks.

Goats and Cows eat it; Horses and Sheep refuse it.

CROW.

Round-leaved
Sceleratus

CROWFOOT. The lower leaves hand-shaped ; upper leaves fingered. Fruit oblong—*Blossoms yellow.*

Ranunculus palustris rotundifolius. Gerard. 962. Ray's Syn. 249.

Ranunculus palustris fardonius lævis. Park. 1215.

Ranunculus palustris apii folio lævis. Baub. pin. 180.

Round-leaved Water Crowfoot.

In shallow Waters. A. May—June.

The whole plant is very corrosive, and beggars are said to use it to ulcerate their feet, which they expose in that state to excite compassion.

Goats eat it ; Cows Horses and Sheep refuse it.

Bulbous
Bulbosus

CROWFOOT. The leaves of the cup bent backwards ; fruit-stalks furrowed ; stem upright, supporting many flowers ; leaves compound—*Chives about eighty, the whole plant hairy, more or less.* Roots bulbous. Blossoms pale yellow.

Ranunculus bulbosus. Gerard. 953. Park. 329. Ray's Syn. 247.

Ranunculus pratensis, radice Verticilli modo rotunda. Baub. pin. 179.

1. There is a variety with hairy and paler leaves, Ray's Syn. 247.

Butter flower. Gold-cup.

Cows and Horses have a great aversion to it.

Creeping
Repens

CROWFOOT. The cups open ; fruit-stalks furrowed ; suckers creeping ; leaves compound—*Leaf-stalks flattened at the base.* Cups smooth. Blossoms close during rain, but do not hang down. Leaves smooth, shining. Blossoms bright yellow. Honey-cup very large.

Ranunculus pratensis repens. Park. 329. Ray's Syn. 247. *hirsutus.* Baub. pin. 179.

Ranunculus pratensis. Gerard. 951.

Butter-cups.

Pastures. P. May.

Goats eat it ; Horses refuse it.

CROW-

CROWFOOT. The cups open; fruit-stalks cylindrical; Upright
leaves with three divisions and many clefts. The upper leaves *Acris*
strap-shaped—*Hairs on the stem pressed closely down. Leaves of the*
cup hairy; not joined at the base. Segments of the leaves smooth.
Chives about ninety. Threads shorter than the leaves of the cup.
Blossoms bright yellow.

Ranunculus pratensis erectus acris. Baub. pin. 178. Ray's
Syn. 248.

Ranunculus pratensis erectus acris vulgaris. Park. 329.

Ranunculus furrectis cauliculis. Gerard. 951.

Upright Meadow Crowfoot.

Pastures. P. June—July.

Cows and Horses leave this plant untouched though their pas-
ture be ever so bare. It is very acrid, and its acrimony rises in
distillation. Some years ago a man travelled in several parts of
England administering Vomits, which like white Vitriol, ope-
rated the instant they got down into the Stomach. The distilled
water of this plant was his medicine.

Sheep and Goats eat it; Cows, Horses and Swine refuse it.

CROWFOOT. The seeds prickly; upper leaves doubly Corn
compound; strap-shaped—*Chives about sixteen. Blossoms pale yellow. Arvensis*

Ranunculus arvorum. Park. 328. Gerard. 951. Ray's Syn. 249.

Ranunculus arvensis echinatus. Baub. Pin. 179.

Corn-fields. A. June.

CROWFOOT. The seeds covered with sharp points. Leaves *Small-flower'd*
simple; jagged; sharp; rough with hair. Stem spreading—*Parviflorus*
Blossoms pale yellow.

Ranunculus hirsutus annuus flore minimo. Ray's Syn. 248.
Tab. 12. fig. 1.

Pastures and Corn-fields, in gravelly soil. A. May.

CROWFOOT. The leaves nearly circular; with three Ivy-leaved
lobes; very entire. Stem creeping—*Blossoms white or pale straw* *Hederaceus*
colour.

Ranunculus aquatilis hederaceus albus. Ray's Syn. 249.

Ranunculus aquatilis hederaceus luteus. Baub. pin. 180.

Ranunculus hederaceus aquaticus. Park. 1216.

Ranunculi aquatilis varietas altera. Gerard. 830.

Ivy-leaved Water Crowfoot.

Ditches and flow streams. P. May.

Water
Aquatilis

CROWFOOT. The leaves which are under the water hair-like; those above the water have central leaf-stalks—*Petals have not a scale at the base but a little hole filled with Honey.* Blossoms on fruit-stalks which arise from the same sheath with the leaves do; white, or pale straw colour.

Ranunculus aquatilis. Gerard. 829. Ray's Syn. 249.

Ranunculus aquaticus, hepaticæ facie. Park. 1216.

Ranunculus aquaticus folio rotundo et capillaceo. Baub pin. 180.

Various leaved Water Crowfoot.

Ditches, ponds, rivers. P. April—May.

Cows, Horses, Goats Sheep and Swine eat it.

229 PHEASANT-EYE. 698 Adonis.

EMPAL. Cup five leaves; blunt; concave; a little coloured; deciduous.

BLOSS. *Petals* five to fifteen; oblong; blunt; shining.

CHIVES. *Threads* many; very short; awl-shaped. *Tips* oblong; bent inwards.

POINT. *Seedbuds* numerous; forming a knob. *Shafts* none. *Summits* sharp; reflected.

S. VESS. None. *Receptacle* oblong; spiked.

SEEDS. Numerous; irregular; angular; hunched at the base; crooked at the top; without awns; but having a small projection.

Autumnal

Autumnalis

PHEASANT EYE. Flowers with eight petals. Fruit nearly cylindrical—*Blossoms scarlet.*

Adonis hortenſis flore minore atro-rubente. Baub. pin. 178.

Flos adonis. Park. 293. Ray's Syn. 251.

Flos adonis. flore rubro. Gerard. 387.

Adonis Flower. Red Maithes. Red Morocco.

Corn-fields. A. June—July.

Its beautiful scarlet blossoms have caused it to be admitted into our gardens.

C L A S S XIV.

TH E essential character of this Class consists in the Flowers being furnished with four Chives, two of which are *long*, and two *short*. The short Chives stand next together and adjoining to the shaft of the Pointal. They are covered by the Blossom, which is irregular in its shape.—This Class comprehends the *Whorled Plants*, the *lippled*, the *masked*, the *gaping* and the *grinning* flowers of other authors. It admits of the following NATURAL CHARACTER.

EMPAL. Cup one leaf; upright; tubular, with five clefts; Segments unequal; permanent.

BLOSS. One petal; upright. The base tubular, containing honey, and serving for a honey-cup.

Border generally gaping; the *upper Lip* straight; the *lower Lip* expanding, with three Segments; the middle one the broadest.

CHIVES. Threads four; strap-shaped; fixed to the tube of the blossom but leaning towards the back of it. The threads are all parallel; seldom taller than the blossom. The two middle threads are shorter than those on each side.

Tips generally covered by the upper lip of the blossom, and approaching each other, so as to stand in pairs.

POINT. Seedbud generally superior. Shaft single; thread-shaped; bent in the same manner as the chives and generally standing in the midst of them, but somewhat longer, and a little crooked at the top. Summit generally cloven.

S. VESS. Either none, (as in the first order,) but when there is one, (as in the second order,) it generally consists of two cells.

SEEDS. In the *first Order* four, seated at the bottom of the cup. In the *second Order* many; fixed to the receptacle, which is placed in the middle of the feed-vessel.

OBS. The flowers of this Class are for the most part nearly upright, but leaning a little from the stem, so that the blossom might more effectually cover the tips from the rain, and the dust more easily fall upon the summit. The plants in the first order of this Class are odoriferous, cephalic and resolvent. None of them are poisonous.

C L A S S

C L A S S XIV.

TWO CHIVES LONGER.

Order I. Seeds naked.

* *Cups generally with five Clefts.*

- 230 MOTHERWORT. *Tips* sprinkled with particles as hard as bone.
- 231 GILL. - - *Tips* in pairs; each pair forming a cross.
- 232 MINT. - - *Threads* distant; straight. *Bloss.* nearly equal.
- 233 VERVAIN. - *Blossom* nearly equal. The upper segment of the cup the shortest.
- 234 GERMANDER. *Blossom* without any upper lip, but the upper segment of the petal divided..
- 235 BUGLE. - - *Blossom* with the upper lip shorter than the chives.
- 236 BETONY. - *Blossom* with the upper lip flat; ascending. *Tube* cylindrical. *Chives* as long as the mouth of the tube.
- 237 ARCHANGEL. *Blossom* with a bristle-shaped tooth on each side the lower lip.
- 238 ALLHEAL. - *Blossom* with two taper teeth upon the lower lip.
- 239 CLOWN-

- 239 CLOWNHEAL. *Blossom* with the lateral segments of the lower lip reflected. *Chives* after shedding their dust turned to the sides.
- 240 NAP. - - *Blossom* with the lower lip scolloped. *Mouth* with the edge reflected.
- 241 HENBIT. - - *Cup* with ten scores. *Blossom* with the upper lip vaulted.
- 242 HOREHOUND. *Cup* with ten scores. *Blossom* with the upper lip flat and straight.
- † *Marjoram.*
- * * *Cups with two Lips.*
- 243 HOODWORT. - *Cup* after flowering appears as if closed with a cover, resembling a helmet.
- 244 THYME. - - *Cup* closed at the mouth with soft hairs.
- 245 SELFHEAL. - *Threads* forked at the end.
- 246 MARJORAM. *Cups* inclosed in a tiled cone.
- 247 BASIL. - - *Cups* inclosed in a fence.
- 248 BALMLEAF. *Cup* wider than the tube of the blossom. The *upper Lip* of the blossom flat and entire. *Tips* crossing each other.
- 249 CALAMINT. - *Cup* angular; skinny; upper lip ascending.

Order II. Seeds covered.

* *Caps with two Clefts.*

- 250 BROOMRAPE. *Capsules* with one cell. *Bloss.* nearly equal; with four clefts. A *Gland* at the base of the seed-bud.

* * *Cups with four Clefts.*

- 251 TOOTHWORT. *Capsules* with one cell. *Bloss.* gaping. A *Gland* at the base of the seed-bud.
- 252 PAINTEDCUP. *Capsule* with two cells. *Bloss.* gaping. *Cup* coloured.

Z

253 EYE-

253 EYE-BRIGHT. Capsule with two cells. Bloss. gaping. Lower Tips thorny.

254 RATTLE. - Capsule with two cells. Bloss. gaping. Capsule compressed.

255 COWWHEAT. Capsule with two cells. Bloss. gaping. Seeds two; hunched.

* * * Caps with five Clefts.

256 MUDWEED. Capsule with one cell. Bloss. bell-shaped; regular. Seeds many.

257 FIGWORT. - Capsule with two cells. Bloss. facing upwards. The middle segment hath another within it.

258 COUNTERWORT. Capsule with two cells. Bloss. wheel-shaped. Chives placed two and two, approaching.

259 FOXGLOVE. Capsule with two cells. Bloss. bell-shaped, distended on the under-side. Chives declining.

260 TOADFLAX. - Capsules with two cells. Bloss. gaping; with projecting honey-cup beneath.

261 LOUSEWORT. Capsules with two cells. Bloss. gaping. Seeds coated.

230 MOTHERWORT. 722 Leonurus.

EMPAL. *Cup* one leaf; tubular; cylindrical, but angular; with five edges, and five teeth; permanent.

BLOSS. One petal; gaping. *Tube* narrow. *Border* opening with a long mouth. *Upper Lip* the longest; semi-cylindrical; concave; hunched; roundish and blunt at the end; entire; covered with soft hairs. *Lower Lip* reflected; with three divisions. *Segments* spear-shaped; nearly equal.

CHIVES. *Threads* four; (two long and two short,) covered by the upper lip. *Tips* oblong; compressed; cloven half way down: fixed sideways to the threads; sprinkled with very small, solid, shining, elevated, globular particles.

POINT. *Seedbuds* four. *Shaft* thread-shaped; agreeing in length and situation with the chives. *Summits* cloven; sharp.

S.VESS. None. The *Cup* remaining unchanged, contains the seed within it.

SEEDS. Four; oblong; convex on one side; angular on the other.

MOTHERWORT. The stem leaves spear-shaped, with three lobes.—*The particles upon the Tips are very conspicuous.* Blossoms Cordial purplish. *Cardiaca*

Cardiaca. *Park.* 41. *Ray's Syn.* 239.

Marrubium cardiaca dictum. *Bauh. pin.* 230.

1. There is a variety with curled leaves.

Dunghills and amongst rubbish. B. July.

The leaves have a strong, but not an agreeable smell, and a bitter taste.

Goats, Sheep and Horses eat it; Cows are not fond of it; Swine refuse it.

231 GILL. 714 Glecoma

EMPAL. *Cup* one leaf; tubular; cylindrical; scored; very small; permanent. *Rim* with five teeth; taper; unequal.

BLOSS. One petal; gaping. *Tube* slender: compressed. *Upper Lip* upright; blunt; with a shallow cleft. *Lower Lip* expanding; large; blunt; in three segments; the middle segment largest and notched at the end.

CHIVES *Threads* four; (two long and two short;) covered by the upper lip. *Tips* of each pair of chives approaching so as to form a cross.

POINT. *Seedbud* cloven into four. *Shaft* thread-shaped; leaning under the upper lip. *Summit* cloven; sharp.

S. VESS. None. The seeds lye at the bottom of the cup.

SEEDS. Four; egg-shaped.

OBS. *The chives are sometimes imperfect, consisting of threads only half the usual length, and terminated by a reddish blunt point.*

Ground-Ivy
Hederacea

GILL. The leaves kidney-shaped; scalloped—*Little protuberances composed of many cells, are sometimes found upon the leaves and are occasioned by insects.* Stems four cornered; trailing. Blossoms blue.

Cultivation hath occasioned the following varieties.

1. Blossoms purple. 2. Blossoms white. 3. Leaves small and elegant.

Hedera terrestris. Gerard. 856. vulgaris. Park. 676. Baub. pin. 306.

Calamintha humilior, folio rotundiore. Ray's Syn. 243.

Hedera terrestris montana. Baub. pin. 306. Park. 677.

Ground Ivy. Cats-foot. Ale-hoof. Tun-hoof. Robin run in the hedge.

Hedges and shady places. P. May.

The leaves are thrown into the vat with ale, to clarify it and to give it a flavour. Ale thus prepared is often drank as an Antiscorbutic. The expressed juice mixed with a little wine, and applied morning and evening, destroys the white specks upon Horses eyes. The plants that grow near it do not flourish. It is said to be hurtful to Horses if they eat much of it.

Sheep eat it; Horses are not fond of it; Cows, Goats and Swine refuse it.

The furbelow Moth, *Phalena libatrix* and the *Cynips Glechomæ* live upon it.

231 MINT.

232 M I N T. 713 *Mentha*.

EMPAL. *Cup* one leaf; tubular; upright; with five teeth; equal; permanent.

BLOSS. One petal; upright; tubular; rather longer than the cup. *Border* with four divisions, nearly equal. The *Upper Segment* the broadest and notched at the end.

CHIVES. *Threads* four; awl-shaped; upright; distant; the two next each other the longest. *Tips* roundish.

POINT. *Seedbud* cloven into four. *Shaft* thread-shaped; upright; longer than the blossom. *Summit* cloven; expanding.

S.VESS. None. *Cup* upright; containing the seeds.

SEEDS. Four; small.

OBS. *In the Water-mint the chives are all nearly of the same length.*

MINT, with flowers in oblong spikes; leaves oblong; downy; serrated; sitting. Chives longer than the blossom—*Leaves* *Sylvestris* whitish. Blossoms *pale purple*.

Mentha sylvestris folio longiore. Baub. pin. 227.

Menthastrum spicatum folio longiore candicante. Ray's Syn.

234.

Mentha longifolia. Hudson. 221.

1. There is a variety that is hairy with a broader spike. *Ray's Syn. 234.*

Long-leaved Horse-mint,
Marshes. P. August.

Spear
Viridis

MINT, with flowers in oblong spikes. Leaves spear-shaped; naked; ferrated; fitting. Chives longer than the blossom—*Nearly allied to the preceding species but smaller and smother. Blossoms purplish red.*

Mentha angustifolia spicata. Baub. pin. 227.

Mentha angustifolia glabra spicata, folio rugosiore, odore graviore. Ray's Syn. 233.

Mentha spicata. Hudson. 221.

1. There is one variety with a broad spike. *Ray's Syn. 233.* and another

2. With broader leaves. *Ray's Syn. 234.*

3. Cultivation produces leaves striped with white, or yellow; or curled leaves.

Banks of rivers. P. August.

The flavour of this species being more agreeable than that of the others, it is generally preferred for Culinary and Medicinal purposes. A conserve of the leaves is very grateful, and the distilled waters both simple and spirituous are universally thought pleasant. The leaves are used in spring fallads; and the juice of them boiled up with sugar is formed into tablets. The distilled waters and the essential oil are often given to stop reachings, and frequently with success. From the circumstances noticed under the ninth species, it has been imagined, that Cataplasms and Fomentations of Mint, would dissolve coagulations of milk in the breasts; but *Dr. Lewis* says, that the curd of milk, digested in a strong infusion of Mint, could not be perceived to be any otherwise affected than by common water: however, milk in which Mint leaves were set to macerate, did not coagulate near so soon as an equal quantity of the same milk kept by itself. *Dr. Lewis* says that Dry Mint digested in rectified spirits of wine, gives out a tincture, which appears by day-light of a fine dark green, but by candle-light of a bright red colour. The fact is that a small quantity of this tincture is green either by day-light or by candle-light, but a large quantity of it seems impervious to common day-light; however when held betwixt the eye and a candle, or betwixt the eye and the sun it appears red.

Round-leaved
Rotundifolia

MINT, with flowers in oblong spikes. Leaves circular; wrinkled; scolloped; fitting—*Blossoms pale red; or purple.*

Mentha sylvestris rotundior folio. Baub. pin. 227.

Menthastrum folio rugoso rotundior spontaneum, flore spicato, odore gravi. Ray's Syn. 234.

Menthastrum. Gerard. 683.

Round-leaved Horse-mint.

In marshes. P. August.

MINT with flowers in heads. Leaves egg-shaped; ferrated; Round-headed downy; almost fitting. Chives longer than the blossom—*Pointal Hirsuta* longer than the blossom, which is nearly equal and deeply divided into four parts. Cups fringed. Blossoms purplish white.

Sisymbrium hirsutum. Ray's Syn. 233.

1. Outside of the blossom and the leaves and stem hairy.

Mentha hirsuta. Hudson 223.

2. There is a variety with leaves more circular. Ray's Syn. 233.

Tab. 10. fig. 1

In watery places. P. August.

Linnaeus says the chives are longer than the blossom, and refers to Hudson's Flora Anglica; but Hudson says the chives are shorter than the blossom.

MINT with flowers in heads. Leaves egg-shaped; ferrated; Water on leaf-stalks. Chives longer than the blossom—*differing but little in length; not hairy.* Flowers in terminating whorls, so crowded together as to resemble a head or a blunt spike. Blossoms pale red.

Mentha aquatica seu sisymbrium. Gerard. 684. Ray's Syn. 233.

Mentha aquatica rubra. Park. 1243.

Mentha rotundifolia palustris, seu aquatica major. Bauh. pin. 227.

1. The leaves are sometimes striped.

Banks of rivers. P. July—August.

Horses eat it; Swine refuse it.

MINT with flowers in heads. Leaves egg-shaped, on leaf-stalks. Chives shorter than the blossom—*Stem upright.* Blossoms purplish red. Under each whorl of flowers there are two pointed, spear-shaped, hairy floral leaves. Pepper
Piperita

Mentha spicis brevioribus et habitioribus, foliis menthæ fuscæ sapore fervido piperis. Ray's Syn. 234. Tab. 10. fig. 2.

1. It varies in the leaves being more or less pointed.

Brooks and watery places. P. August.

The stem and leaves are beset with numbers of very minute glands containing the essential oil; which rises plentifully in distillation. The Pepper Mint water is well known as a carminative and antispasmodic. Junipers essence of Pepper Mint is an elegant medicine, and possesses the most active properties of the plant.

MINT with flowers in whorls; leaves egg-shaped; rather Curled sharp; ferrated. Chives longer than the blossom—*Stems trailing; Sativa leaves often curled at the edges.* Blossoms purple.

Mentha verticillata. Ray's Syn. 232. Hudson. 222.

Mentha crispa. Park. 31. verticillata. Bauh. pin. 227.

Mentha sativa rubra. Gerard. 680.

Marshes and banks of rivers. P. August.

Reed
Gentilis

MINT, with flowers in whorls. Leaves egg-shaped, sharp; serrated. Chives shorter than the blossom—*Stems red. Cups besprinkled with resinous dots. Leaves sometimes red. Blossoms pale red.*

Mentha fusca, seu vulgaris. Park. 31. Ray's Syn. 232.

Mentha cardiaca. Gerard. 680.

Mentha hortensis verticillata, ocymi odore. Bauh pin. 227.

1. There is a variety with blunter leaves and a more aromatic smell. *Ray's Syn. 239.*

In watery places. P. August.

Corn
Arvensis

MINT, with flowers in whorls. Leaves egg-shaped; sharp; serrated. Chives as long as the blossom—*Stems spreading. The whole plant hairy. Cups white with down. Blossoms pale red.*

Mentha arvensis verticillata. Bauh. pin. 229.

Mentha seu calaminta aquatica. Gerard. 684, Ray's Syn. 232.

1. Round-leaved.

Moist corn-fields. P. August—September.

It prevents the coagulation of milk; and when cows have eaten it, as they will do largely at the end of summer, when the pastures are bare and hunger distresses them, their milk can hardly be made to yield cheese: a circumstance that puzzles the dairy maids not a little.

Horses and Goats eat it; Sheep are not fond of it; Cows and Swine refuse it.

Smooth
Exigua

MINT, with flowers in whorls. Leaves betwixt spear and egg-shaped; smooth; sharp; very entire—*Stems trailing. Blossoms purplish.*

Mentha aquatica exigua. Ray's Syn. 232.

Mentha arvensis verticillata, seu aquatica belgarum lobelii. Park. 36.

Near rivers. P. August.

Pennyroyal
Pulegium

MINT, with flowers in whorls. Leaves egg-shaped; blunt; slightly scolloped. Stems nearly cylindrical; creeping. Chives longer than the blossom—*which is of a pale purple: cultivation will reduce it to a white.*

Pulegium. Ray's Syn. 235. vulgare. Park. 29.

Pulegium regium. Gerard. 671.

Pulegium latifolium. Bauh. pin 222.

In places that are flooded. P. August—October.

The expressed juice, with a little sugar is not a bad medicine in the Hooping Cough. A simple and a spirituous water distilled from the dried leaves are kept in the shops. They are prescribed in hysterical Affections, and are not without considerable antispasmodic properties. An infusion of the plant may be used with the same intentions.

The

The Mint Fly, *Musca Pipiens*.

The Green Tortoise Beetle, *Cassida Viridis*, and the Green-filken Moth, *Phalæna Chrysitis*, live upon the different species of mint.

233 V E R V A I N. 32 Verbena.

EMPAL. Cup of one leaf; angular; tubular; permanent.

The tube of equal thickness; with five teeth; one of the teeth lopped.

BLOSS. One petal; unequal. Tube cylindrical; straight; as long as the cup: dilated, and bowed inward towards the top. Border expanding; with five shallow clefts; the segments rounded; nearly equal.

CHIVES. Threads four; bristly; very short; conc within the tube of the blossom; two longer than the other two. Tips crooked: either two or four in the

POINT. Seedbud four cornered. Shaft simple; thread-shaped; as long as the tube. Summit blunt.

S. VESS. Very fine and thin, but generally none; the cup containing the seeds.

SEEDS. Two; or four; oblong.

OBS. Linnæus attending chiefly to the foreign species, places this in the first order of the second class, but the only British species being an exception to that arrangement, we have ventured to put it in its proper situation.

VERVAIN, with thread-shaped panicle spikes; the leaves with many jagged clefts; the stem single.—Blossoms pale blue. Common
Officinalis

Verbena vulgaris. Ray's Syn. 236.

Verbena mas f. recta et vulgaris. Park. 674.

Verbena communis. Gerard. 664. cæruleo flore. Bauh. pin. 269.

Simplers Joy.

Ditch-banks and road-sides in gravelly soils. A. July.

It manifests a slight degree of astringency. The root worn at the pit of the stomach, an infusion, and an ointment prepared from the leaves, are said to produce good effects in Scrophulous cases; (*Morley's Essay on Scrophula*;) but this wants confirmation from the more rational and less enthusiastic practitioner—Mr. Millar says it is never found more than a quarter of a mile from a house, which is the reason of the common English name mentioned above.—Sheep eat it. Cows, Goats and Horses refuse it.

TWO CHIVES LONGER.

234 GERMANDER. 706 Teucrium.

EMPAL. *Cup* one leaf; with five shallow clefts; nearly equal; hunched on one side the base: sharp; permanent.

BLOSS. One petal; gaping; *Tube* cylindrical; short; ending in a crooked mouth. *Upper Lip* upright; sharp; deeply divided; *Segments* standing wide. *Lower Lip* with three clefts; expanding. *Lateral Segments* a little upright; the shape of the upper lip. The middle segment large; circular.

CHIVES. *Threads* four; awl-shaped; longer than the upper lip of the blossom and projecting betwixt its segments. *Tips* small.

POINT. *Seedbud* with four divisions. *Shaft* thread-shaped; agreeing in size and situation with the chives. *Summits* two; slender.

S. VESS. None. The *Cup* remaining unchanged contains the seeds within it.

SEEDS. Four: roundish.

OBS. *The upper lip of the blossom being deeply divided, and the segments standing wide asunder, make it appear as if the upper lip was wanting.*

Ground Chamæpithys GERMANDER. The Leaves with three clefts: strap-shaped; very entire. Flowers solitary; lateral; sitting. Stem spreading—*Blossoms* yellow.

Chamæpitys vulgaris. *Park.* 283. *Ray's Syn.* 244.

Chamæpitys lutea vulgaris, seu folio trifido. *Bauh. pin.* 249.

Chamæpitys mas. *Gerard.* 525.

Ground Pine,

Corn-fields. A. June—July.

This plant hath a degree of bitterness and acrimony, but its real use is far from being accurately ascertained. It stands recommended in the Gout, Jaundice and intermitting Fevers.

GERMAN-

GERMANDER. The leaves heart-shaped; serrated; on Sage leaf-stalks. Flowers in lateral bunches, all pointing one way. Scorodonia Stem upright—*Blossoms greenish straw-colour.*

Scorodonia, feu falvia agrestis. *Gerard.* 626. *Ray's Syn.* 245.

Scorodonia, feu scordium alterum, quibusdam, et falvia agrestis. *Park.* 111.

Scordium alterum feu falvia agrestis. *Bauh. pin.* 247.

Wood Sage.

Woods, heaths, ditch-banks. P. July.

It possesses the bitterness and a good deal of the aroma of Hops, it is therefore worth while to try if it may not be used for the same purpose.

GERMANDER. The leaves oblong; sitting; toothed and Water serrated. Flowers in pairs, on fruit-stalks at the base of the Scordium leaves. Stem spreading—*Blossoms red.*

Scordium. *Bauh. pin.* 247. *Ray's Syn.* 246.

Scordium majus et minus. *Gerard.* 661.

Scordium legitimum. *Park.* 111.

Marshes. P. August.

The fresh leaves are bitter and somewhat pungent. Powdered they destroy worms. A decoction of this plant is a good fermentation in gangrenous cases. If Cows eat it when compelled by hunger, their milk gets a garlic flavour.

Sheep and Goats eat it; Horses, Cows and Swine refuse it.

GERMANDER. The leaves betwixt wedge and egg-shaped; Wall jagged; scolloped; on leaf-stalks. Flowers growing by threes. Chamædryes Stems trailing; a little hairy—*Blossoms purplish.*

Chamædryn vulgarem, feu fativam. *Ray's Syn.* 231.

Chamædryes minor repens. *Bauh. pin.* 248.

Chamædryes major latifolia. *Gerard.* 616.

On walls and amongst ruins. P. May—June.

The plant is bitter, with a degree of aroma, and may be used with advantage in weak and relaxed constitutions. It is an ingredient in the celebrated Gout Powders.

TWO CHIVES LONGER.

235 BUGLE. 705 Ajuga.

EMPAL. *Cup* one leaf; short; with five shallow clefts; nearly equal; permanent.

BLOSS. One petal; gaping. *Tube* cylindrical; crooked. *Upper Lip* very small; upright; cloven; blunt. *Lower Lip* large; expanding; with three segments; blunt. Middle segment large; inversely heart-shaped. Lateral segments small.

CHIVES. *Threads* four; (two short and two long), awl-shaped; upright; taller than the upper lip. *Tips* double.

POINT. *Seedbud* with four divisions. *Shaft* thread-shaped; agreeing in size and situation with the chives. *Summits* two; slender; the lowermost the shortest.

S. VESS. None. The *Cup* closes and retains the seed.

SEEDS. Four; rather long.

Mountain
Pyramidalis

BUGLE. The flowers in a hairy four-sided pyramid. Root-leaves very large—*The upper leaves are sometimes of a violet colour.* Blossoms bluish; red; or white.

Bugula cærulea alpina. Park. 525. Ray's Syn. 245.

Consolida media cærulea alpina. Baub. pin. 260.

Sicklewort.

Hilly countries. P. June.

Sheep and Goats eat it; Cows are not fond of it; Horses and Swine refuse it.

Pasture
Reptans

BUGLE. Smooth, with creeping suckers—*Blossoms blue; red; or white; in long leafy spikes.*

Bugula. Gerard. 631. Ray's Syn. 245.

Bugula vulgaris. Park. 525.

Consolida media pratensis cærulea. Baub. pin. 260.

Wet pastures. P. May.

The roots are astringent and strike a black colour with vitriol of iron.

236 BETONY.

236 BETONY. 718 Betonica.

EMPAL. *Cup* one leaf; tubular; cylindrical; with five teeth; with awns; permanent.

BLOSS. One petal, gaping. *Tube* cylindrical; crooked. *Upper Lip* circular; entire; flat; upright; *Lower Lip* with three segments. The middle segments broader, circular, notched at the end.

CHIVES. *Threads* four, (two long and two short;) as long as the mouth of the blossom, and leaning towards the upper lip. *Tips* roundish.

POINT. *Seedbud* with four divisions. *Shaft* in shape, size and situation resembling the chives. *Summit* cloven.

S. VESS. None. The *Cup* contains the seeds.

SEEDS. Four; egg-shaped.

BETONY. The flowers in an interrupted spike. The middle segment of the lip of the blossom notched—*Root leaves on leaf-stalks. Stem-leaves sitting, heart-shaped, hairy. Blossoms purple.* Officialis

Betonica. Gerard. 714. Ray's Syn. 238. purpurea. Bauh. pin. 235.

Betonica vulgaris flore purpureo. Park. 614.

Woods and heaths. P. July—August.

This plant was formerly much used in medicine, but it is discarded from the modern practice; however it is not destitute of virtues, for when fresh it intoxicates, and the dried leaves excite sneezing. It is often smoked as Tobacco. The roots provoke vomiting.—Sheep eat it; Goats refuse it.

237 ARCHANGEL. 716 Lamium.

EMPAL. *Cup* one leaf; tubular; wider towards the top; with five teeth, and awns; nearly equal; permanent.

BLOSS. One petal; gaping. *Tube* cylindrical, very short. *Border* open. *Mouth* bladder-shaped; compressed; hunched; with a little tooth turned backwards on each side. *Upper Lip* vaulted; circular; blunt; entire. *Lower Lip* shorter; inversely heart-shaped; notched at the end; reflected.

CHIVES. *Threads* four; awl-shaped; (two long and two short) covered by the upper lip. *Tips* oblong; hairy.

POINT. *Seedbud* with four clefts. *Shaft* thread-shaped; agreeing in length and situation with the chives. *Summit* cloven; sharp.

S. VESS. None. The *Cup* remaining open contains the seeds in its bottom.

SEEDS. Four; short; three-cornered; convex on one side; lopped at each end.

White
Album

ARCHANGEL. The leaves heart-shaped; tapering to a point; ferrated; on leaf-stalks. Flowers about twenty in a whorl—Blossoms *white*.

Lamium album. Gerard. 782. Ray's Syn. 240.

Lamium album non fœtens, folio oblongo. Bauh. pin. 231.

Lamium vulgare album, seu Archangelicum flore albo. Park. 604.

White Dead Nettle.

Ditch-banks. P. May—June.

Goats and Sheep eat it; Cows are not fond of it; Horses and Swine refuse it.

ARCHANGEL. The leaves heart-shaped ; blunt ; on leaf- Purple
stalks—Serrated ; downy ; but not rough. Several flowers in each Purpureum
whorl. Lower border of the mouth whitish, with purple streaks ;
the other parts pale red.

Lamium rubrum. Gerard. 703. Ray's Syn. 240.

Lamium vulgare folio sub-rotundo, flore rubro. Park. 604.

Lamium purpureum fætidum, folio subrotundo, seu Galeopsis
Dioscoridis. Baub. pin. 230.

Lamium rubrum. Hudson. 225.

1. The leaves are sometimes pretty deeply divided. Ray's Syn.
240.

Red Dead Nettle.

Amongst rubbish. A. May—June.

The young leaves both of this and the preceding species may
be eaten with other pot-herbs.—Goats, Sheep and Horses eat it ;
Cows refuse it.

ARCHANGEL. The floral leaves sitting ; blunt ; embrac- Henbit
ing the stem—Lower leaves on leaf-stalks. Blossoms purple. Amplexicaule

Lamium folio caulem ambiente, majus et minus. Baub. pin.
231. Ray's Syn. 240.

Alfine hederula altera. Gerard. 616.

Alfine hederulæ folio major. Park. 762.

Great Henbit.

Corn-fields. A. June.

Sheep, Horses and Goats eat it.

238 ALLHEAL. 717 Galeopsis.

EMPAL. *Cup* one leaf; tubular; with five teeth; ending in sharp awns as long as the tube; permanent.

BLOSS. One petal; gaping. *Tube* short. *Border* open. *Mouth* somewhat wider than the tube and as long as the cup. Above the base of the lower lip on each side lies a little tapering tooth; hollow on the under surface. *Upper Lip* circular; concave; serrated at the top. *Lower Lip* with three segments; the lateral ones circular; the *middle* segment larger; scolloped; notched at the end.

CHIVES. *Threads* four, (two long and two short) awl-shaped; covered by the upper lip. *Tips* roundish; cloven.

POINT. *Seedbud* with four clefts. *Shaft* thread-shaped; agreeing in length and situation with the chives. *Summit* cloven; sharp.

S. VESS. None. The *Cup* stiff and straight contains the seeds.

SEEDS. Four: three-cornered; lopped.

OBS. *The first species hath the upper lip of the blossom a little reflected, but not very evidently scolloped. In the yellow ALLHEAL the lower lip of the blossom is without teeth; and divided into three equal segments. The upper lip is entire and fringed with a few soft hairs.*

Narrowleaved
Ladanum

ALLHEAL, with flowers in remote whorls. Stem equally thick betwixt the joints. Cups unarmed—*Blossoms* red; sometimes white.

Sideritis arvensis rubra. Park. 587. Ray's Syn. 242.

Sideritis VII. Gerard. 699.

Sideritis arvensis angustifolia rubra. Baub. pin. 233.

Corn-fields. A. July—August.

Goats and Cows eat it; Sheep are not fond of it; Horses refuse it.

ALLHEAL.

ALLHEAL, with flowers in whorls; the upper whorls Nettle-hemp almost contiguous. Stem thickest just beneath the joints. Cups Tetrahit somewhat prickly—and much smaller than the Blossoms, which are yellow, purple, or white.

Lamium Cannabino folio vulgare. Ray's Syn. 240.

Cannabis spuria. Gerard. 709. Park. 599.

Urtica aculeata, foliis ferratis. Bauh. pin. 232.

1. It varies in having white, purple or yellow flowers. Ray's Syn. 241.

Hemp-leaved Dead Nettle.

Ditch-banks and corn-fields. A. August.

Sheep and Goats eat it; Horses, Cows and Swine refuse it.

ALLHEAL, with six flowers in a whorl. Fence of four Yellow leaves—Blossoms yellow; sometimes as many as ten in a whorl. The fence sometimes consists of six leaves. There is a difficulty in ascertaining the genus of this plant, as the lip of the blossom is equal and without teeth. The leaves are sometimes spotted with white. Galeobdolon

Lamium luteum. Gerard. 671. Park. 606. Ray's Syn. 240.

Lamium folio oblongo, luteum. Bauh. pin. 231.

1. Leaves spotted.

Yellow Nettle-hemp. Yellow Archangel.

Woods and shady moist hedges. P. May.

The green filken Moth, *Phalena Chrysitis*, and the Gooseberry Moth, *Phalena Wauvaria*, live upon the different species.

239 CLOWNHEAL. 719 Stachys.

EMPAL. *Cup* one leaf; tubular; angular; with five shallow clefts; taper; permanent. Teeth awl-shaped; taper; nearly equal.

BLOSS. One petal; gaping. *Tube* very short. *Mouth* oblong; hunched downwards towards the base. *Upper Lip* upright; somewhat egg-shaped; vaulted; generally notched at the end. *Lower Lip* large; with three segments; the two outer segments reflected; the *middle* segment, which is the largest, notched at the end, and folded back.

CHIVES. *Threads* four, (two long and two short) awl-shaped; bent to the sides of the mouth. *Tips* simple.

POINT. *Seedbud* with four divisions. *Shaft* thread-shaped; agreeing in length and situation with the chives. *Summit* cloven; sharp.

S. VESS. None. The *Cup* but little changed contains the seeds.

SEEDS. Four; egg-shaped; angular.

OBS. *In some species the upper lip is vaulted; in others it stands upright.*

Nettle
Sylvatica

CLOWNHEAL. The flowers six or eight in a whorl. Leaves heart-shaped; on leaf-stalks—*Spikes leafy*. Blossoms deep purple, with white spots.

Galeopsis legitima Dioscoridis. *Park.* 908. *Ray's Syn.* 237.

Galeopsis vera. *Gerard.* 709.

Lamium maximum sylvaticum fætidum. *Baub. pin.* 231.

1. There is a variety that is smaller and the leaves angular. Hedge Nettle.

Woods and hedges. A. July—August.

It will dye yellow. The whole plant has a fætid smell, and Toads are thought to be fond of living under its shade.—Sheep and Goats eat it; Horses, Cows and Swine refuse it.

Betony
Recta

CLOWNHEAL. The flowers in spiked whorls; leaves betwixt oval and heart-shaped; rough, scolloped; stems ascending—*Stiff; beset with a few hairs.* *Cups thorny.* Flowers yellow.

Stachys vulgaris hirsuta erecta. *Baub. pin.* 233.

Sideritis arvensis latifolia hirsuta lutea. *Ray's Syn.* 242.

Betonica hirta. *Hudson.* 220.

Yellow Betony.

Corn-fields. P. August.

CLOWN-

CLOWNHEAL. The flowers about six in a whorl. Leaves Water betwixt strap and spear-shaped, half embracing the stem—*Blos- Palustris* some purple; in a leafy spike.

Stachys palustris fætida. Bauh. pin. 236.

Sideritis anglica strumosa radice. Park. 587. Ray's Syn. 242.

Panax coloni. Gerard. 1005.

Clowns Allheal.

Banks of rivers. P. August.

The roots when dried and powdered will make bread. Swine eat them—Sheep eat it; Cows, Horses, Goats and Swine refuse it.

CLOWNHEAL. The flowers several in a whorl. Leaves Horehound serrated; the teeth lapping over each other. Stem woolly—*Germanica* The whole plant is white. Tips yellowish white. Floral leaves spear-shaped; reflected. Blossoms white; with a purplish tinge within.

Stachys Fuchii. Gerard. 795. Ray's Syn. 239.

Stachys major Germanica. Bauh. pin. 236.

Base Horehound.

Hedges. P. July.

CLOWNHEAL. With six flowers in a whorl. Stem feeble. Gill Leaves blunt; almost naked. Blossoms as long as the cup.—*Arvensis* Stem four-cornered; blunt; branched. Leaves heart-shaped, bluntly serrated. Cup sitting; with five shallow clefts, equal; sharp pointed. Blossoms white. Middle segment of the lower lip with a purplish spot.

Sideritis humilis, lato obtuso folio. Gerard. 699. Ray's Syn. 242.

Sideritis hederulæ folio. Park. 587.

Sideritis alfinis trixaginis folio. Bauh. pin. 233.

Glechoma arvensis. Hudson. 224.

Upright Ground Ivy.

Corn-fields. A. August.

240 N A P. 710 Nepeta.

EMPAL. Cup one leaf; tubular; cylindrical. Mouth with five teeth; sharp; upright; the upper teeth the longest; lower teeth most expanded.

BLOSS. One petal; gaping. Tube cylindrical; crooked. Border open. Mouth expanding; heart-shaped; terminated by two very short, reflected, blunt segments. Upper Lip upright; circular; notched at the end. Lower Lip circular; concave; large and entire; a little scolloped at the edge.

CHIVES. Threads four; (two long and two short) awl-shaped; approaching; covered by the upper lip. Tips fixed side-ways to the threads.

POINT. Seedbud with four clefts. Shaft thread-shaped; agreeing in length and situation with the chives. Summit cloven; sharp.

S. VESS. None. The Cup standing upright contains the seeds.

SEEDS. Four; somewhat egg shaped.

Obs. If you reckon the segments of the mouth as part of the lower lip, that lip will appear to have three segments.

Cats
Cataria

NAP. The flowers growing in spikes; forming whorls round the spikes and supported upon little fruit-stalks. Leaves heart-shaped, toothed and serrated; on leaf-stalks—Stem and leaves white with down. Blossoms pale purple; or blue.

Nepeta major vulgaris. Park. 38. Ray's Syn. 237.

Mentha cataria vulgaris et major. Baub. pin. 228.

Mentha felina, seu Cataria. Gerard. 682.

1. There is a variety in which all the parts of the plant are smaller.

Nap. Catmint.

Hedges. P. July.

An infusion of it is deemed a specific in Chlorotic cases. Two ounces of the expressed juice may be given for a dose. Cats are so delighted with this plant that they can hardly be kept out of the garden wherein it grows. Mr. Millar says that Cats will not meddle with it if it is raised from seeds, and in support of this opinion quotes an old saying, "If you set it, the Cats will eat: if you sow it the Cats will not know it." The fact seems to be, that they will attack a single plant, but not a number together—Sheep eat it; Cows, Horses, Goats and Swine refuse it.

241 HENBIT. 720 Ballota.

EMPAL. *Cup* one leaf; tubular; falver-shaped; with five edges; oblong; with ten scores; upright; permanent; equal. *Rim* sharp; open; plaited; with five teeth. *General Fence* to the whorls formed of strap-shaped leaves.

BLOSS. One petal; gaping. *Tube* cylindrical; as long as the cup. *Upper Lip* upright; Egg-shaped; entire; fcolloped; concave. *Lower Lip* with three segments; blunt. The middle segment the largest; notched at the end.

CHIVES. *Threads* four, (two long and two short) awl-shaped; leaning towards and shorter than the upper lip. *Tips* oblong; lateral.

POINT. *Seedbud* with four clefts. *Shaft* thread-shaped; in shape and situation fimilar to the chives. *Summit* slender; cloven.

S. VESS. None. The *Cup* unchanged contains the seeds.

SEEDS. Four; egg-shaped.

OBS. *This genus possesseth the fence of the BASIL, the cup of the HOREHOUND; the blossom of the CLOWNHEAL.*

HENBIT. The leaves heart-shaped; undivided; ferrated. Black
Cups with sharp points—*Blossoms* purple; in whorls. Nigra

Ballota. *Ray's Syn.* 244.

Marrubium nigrum. Gerard. 701.

Marrubium nigrum fætidum, Ballotte dictum. Park. 1230.

Marrubium nigrum fætidum, Ballotte Dioscoridis. Baub. pin. 230.

1. There is a variety in which the cups appear lopped, and the flowers white.

Stinking Horehound. Hedge Nettle.

Amongst rubbish. A. July.

It stands recommended in Hysterical Cases. The Swedes reckon it almost a universal remedy in the diseases of their cattle, Horses, Cows, Sheep and Goats refuse it.

242 HOREHOUND. 721 Marrubium.

EMPAL. *Cup* one leaf; funnel-shaped; tubular; with ten scores. *Rim* equal; open; generally with ten teeth; alternately smaller.

BLOSS. One petal; gaping. *Tube* cylindrical. *Border* open; *Mouth* long; tubular. *Upper Lip* upright; narrow; sharp; cloven a little way down. *Lower Lip* broader; reflected; with three shallow segments; the *middle* segment broad; notched at the end; the *lateral* segments sharp.

CHIVES. *Threads* four, (two long and two short) shorter than the blossom; covered by the upper lip. *Tips* simple.

POINT. *Seedbud* with four clefts. *Shaft* thread-shaped; agreeing in length and situation with the chives. *Summit* cloven.

S. VESS. None. The *Cup* closed at the neck, but open at the rim, contains the seeds.

SEEDS. Four; rather oblong.

White
Vulgar

HOREHOUND. The teeth of the cup like bristles, but hooked—*Leaves* white and woolly. *Blossoms* white.

Marrubium album. Gerard. 693. Ray's Syn. 239.

Marrubium album vulgare. Bauh. pin. 230. Park. 44.

Road-sides and among rubbish. P. July.

It is very bitter to the taste and not altogether unpleasant to the smell. It was a favourite medicine with the ancients in Obstructions of the Viscera. In large doses it loosens the belly. It is a principal ingredient in the Negro Cæsar's remedy for vegetable poisons.—A young man who had occasion to take Mercurial Medicines, was thrown into a salivation which continued for more than a year. Every method that was tried to remove it, rather increased the complaint. At length Linnæus prescribed an infusion of this plant, and the patient got well in a short time. Horses, Cows, Sheep and Goats refuse it.

243 HOOD-

243 HOODWORT. 734 Scutellaria.

EMPAL. *Cup* one leaf; very short; tubular. *Rim* almost entire; covered by a scale, lying over it like a lid; which is formed by an expansion of the upper part of the cap.

BLOSS. One petal; gaping. *Tube* very short; bent backwards. *Mouth* long; compressed. *Upper Lip* concave; divided into three segments. *Middle segment* concave; notched at the end. *Lateral segments* flat, rather sharp; placed under the middle segment. *Lower Lip* broad; notched at the end, keel-shaped beneath.

CHIVES. *Threads* four (two long and two short;) concealed under the upper lip. *Tips* small.

POINT. *Seedbud* with four divisions. *Shaft* thread-shaped; agreeing in length and situation with the chives. *Summit* simple; crooked; taper.

S. VESS. None. The *cup* three cornered; covered with a lid resembling a Helmet; which answers the purpose of a capsule. It opens at the lower margin.

SEEDS. Four; roundish.

HOODWORT. The leaves betwixt heart and spear-shaped; Willow scolloped; opposite. Flowers at the base of the leaves—*On fruit-* Galericulata stalks; pendant. Blossoms blue; hairy on the outside. Chives and pointal white. Tips purple. Branches numerous; opposite.

Cassida palustris vulgator, flore cæruleo. Ray's Syn. 244.

Lyfimachia cærulea galericulata, seu *gratiola cærulea*. Bauh. pin. 246.

Lyfimachia galericulata. Gerard. 477.

Lyfimachia cærulea, seu *latifolia major*. Park. 221.

Hooded Willowherb.

Banks of Rivers. P. August.

When the blossom falls off, the cup closes upon the seeds; which when ripe, being still smaller than the cup, could not possibly open its mouth or overcome its elastic force as the down of the seeds do in the compound flowers, and must consequently remain useless without a possibility of escaping. But nature, ever full of resources, finds a method to discharge them. The cup grows dry, and then divides into two distinct parts; so that the seeds already detached from the receptacle, fall to the ground.

Cows, Goats and Sheep eat it, Horses, and Swine refuse it,

TWO CHIVES LONGER.

HOODWORT. The leaves betwixt heart and egg-shaped; nearly entire. Flowers at the base of the leaves—*Blossoms purple*.
Cassida palustris minima, flore purpurascens. *Ray's Syn.* 244.
Gratiola latifolia. *Gerard.* 581. five nostras minor. *Park.* 221.
 Lesser hooded Willowherb.
 Marshes. P. July—August.

244 THYME. 727 Thymus.

EMPAL. Cup one leaf; tubular; cloven halfway down into two lips; permanent. The mouth closed by soft hairs. Upper lip broad; flat; upright; with three teeth. Lower lip like two bristles, of equal length.

BLOSS. One petal; gaping. Tube as long as the cup. Mouth small. Upper lip short; flat; upright; notched at the end; blunt. Lower lip long; expanding; broad; in three segments; blunt. Middle segment broadest.

CHIVES. Threads four, (two long and two short,) crooked. Tips small.

POINT. Seedbud with four divisions. Shaft thread-shaped. Summit cloven; sharp.

S. VESS. None. The cup narrow at the neck incloses the seeds.

SEEDS. Four; small; roundish.

Obs. In the common Thyme the stems are woody. In the basil Thyme the middle segment of the lower lip of the blossom is notched.

Common
Serpillum

THYME. The flowers in heads. Stems creeping. Leaves flat; blunt; fringed at the base—*Blossoms pale red, or white*. Teeth of the cup fringed. Chives as long as the blossom; and nearly all of the same length.

Serpillum vulgare. *Gerard.* 570. *Ray's Syn.* 230.

Serpillum vulgare minus. *Baub. pin.* 220. *Park.* 8.

Mother of Thyme.

1. Blossoms white; leaves variegated.
2. Flowers large. *Ray's Syn.* 230.
3. Leaves narrow and hairy. *Ray's Syn.* 231.
4. Smells like citron. *Gerard.* 575.
5. Leaves narrow and smooth. *Baub. pin.* 220.
6. More shrubby hairy Mother of Thyme, with pale red Blossoms.

On hills. 6, on Snowden in Wales. P. July—August.

Hoary Thyme,
Lemon Thyme,

The whole plant is fragrant, and yields an essential oil that is very heating. An infusion of the leaves removes the head-ach occasioned by the debauch of the preceding evening. The fourth variety is frequently used in fauces.

A general opinion prevails that the flesh of sheep that feed upon aromatic plants, particularly upon Thyme, is much superior in flavour to common Mutton: but the ingenious author of the account of the Sheep-walks in Spain, (*Gent. Mag.* 1764.) considers this as a vulgar error. He says Sheep are not fond of aromatic plants; that they will carefully push aside the thyme to get at the grafs growing beneath it; and that they never touch it unless when walking apace, and then they will catch at any thing—the attachment of Bees to this and other aromatic plants is well known.—In the experiments made at Upsal, Sheep and Goats were observed to eat it, and Swine to refuse it.—The green broom Moth, *Phalena papilionaria*, lives upon it.

THYME. The flowers in whorls; one upon each fruit-Basil stalk. Stems upright; somewhat branched. Leaves sharp, Acinos serrated—*The middle segment of the lower lip of the Blossom notched at the end.* Blossoms purple.

Acinos multis. *Ray's Syn.* 238.

Ocimum sylvestre. *Gerard.* 675.

Clinopodium arvense ocymi facie. *Bauh. pin.* 225.

Clinopodium minus seu vulgare. *Park.* 21.

Wild Basil.

On Chalk or Gravelly Hills. A. July—August.

Horses eat it; Cows are not fond of it. Sheep and Goats refuse it.

245 SELFHEAL. 735 Prunella.

EMPAL. *Cup* one leaf; with two lips; mouth short; permanent. *Upper lip* flat, broad, lopped; with three very small teeth. *Lower lip* upright; narrow; sharp; with a shallow cleft.

BLOSS. One petal; gaping. *Tube* short; cylindrical. *Mouth* oblong. *Upper lip* concave; entire; nodding. *Lower lip* reflected; blunt; with three segments. The *middle segment* broadest; notched at the end; serrated.

CHIVES. *Threads* four (two a little longer than the other two) awl-shaped, forked at the end. *Tips* simple, fixed to the threads beneath the top, and only to one of the divisions of the fork.

POINT. *Seedbud* with four divisions. *Shaft* thread-shaped, leaning along with the chives towards the upper lip. *Summit* notched at the end.

S. VESS None. The *cup* closes and contains the seeds.

SEEDS. Four, somewhat egg-shaped.

OBS. *The essential character of this genus consists in the threads being forked.*

Common
Vulgaris

SELFHEAL. With all the leaves oblong egg-shaped; on leaf-stalks—*In open sunny situations it grows trailing and not above a fingers length, but in woods it is upright and near a foot high. Floral leaves heart-shaped. Blossoms blue, purplish, or white.*

Prunella. Gerard. 631. Ray's Syn. 238. vulgaris. Park. 1680.

Prunella major folio non dissecto. Bauh. pin. 260.

Pastures. P. August.

Cows, Goats and Sheep eat it; Horses are not fond of it.

246 MARJORAM. 726 Origanum.

EMPAL. Fence spiked, tiled with *Floral leaves*, egg-shaped, coloured. *Cup* unequal, various.

BLOSS. One petal, gaping. *Tube* cylindrical, compressed. *Upper lip* upright, flat, blunt, imperfect at the margin. *Lower lip* with three segments, nearly equal.

CHIVES. *Threads* four, (two long and two short;) thread-shaped; as long as the blossom. *Tips* simple.

POINT. *Seedbud* with four clefts. *Shaft* thread-shaped, leaning towards the upper lip of the blossom. *Summit* slightly cloven.

S. VESS. None. The *cup* closing a little contains the seeds.

SEEDS. Four; egg shaped.

OBS. *The fence to the cups constitutes the essential character of this genus.*

The *cup* in some species is nearly equal; with five teeth: In others it consists of two lips; the upper lip large and entire, the lower lip hardly perceptible. In others again the cup is formed of two leaves.

MARJORAM. The flowers in close, roundish, paniced Wild spikes. *Floral leaves* egg-shaped; longer than the cups—Vulgar *Leaves* oval; pointed; on short leaf-stalks; dark green. Blossoms purple.

Origanum vulgare spontaneum. Ray's Syn. 236.

Origanum anglicum. Gerard. 656.

Origanum sylvestre. Baub. pin. 223.

Marjorana sylvestris. Park. 12.

Among Brambles and Hedges. P. July.

The whole plant is a warm aromatic. The dried leaves used instead of tea are exceedingly grateful—the essential oil of this plant is so acrid that it may be considered as a caustic, and is much used with that intention by Farriers. A little cotton wool moistened with it, and put into the hollow of an aching tooth, frequently relieves the pain—the country people use the tops to dye purple.—Goats and Sheep eat it; Horses are not fond of it; Cows refuse it.

TWO CHIVES LONGER.

MARJORAM. The flowers in oblong, hairy; incorporated spikes. Leaves heart-shaped; downy—*Three flowers upon each fruit-stalk; woolly. The one in the middle, sitting. Blossoms white; sometimes tinged with red.*

Origanum onites. Baub. pin. 223. Ray's Syn. 236.

Majorana major anglica. Gerard. 664.

Majorana latifolia, seu major anglica. Park. 12.

Dry Fields. P. August.

247 BASIL. 725 Clinopodium.

EMPAL. *Fence* of many bristle-shaped leaves, as long as the cup; placed under the whorls. *Cup* one leaf; cylindrical; a little curved. *Mouth* with two lips. *Upper lip* broad; with three segments; sharp; reflected. *Lower lip* deeply divided; slender; bent inwards.

BLOSS. One petal, gaping. *Tube* short; gradually widening into a mouth. *Upper lip* upright; concave; blunt; notched. *Lower lip* with three segments: blunt. *Middle segment* broad; notched.

CHIVES. *Threads* four; (two long and two short;) covered by the upper lip. *Tips* roundish.

POINT. *Seedbud* with four divisions. *Shaft* thread-shaped; agreeing in length and situation with the chives.

Summit simple; sharp; compressed.

S. VESS. None. The *cup*, closing at the neck, and swelling out in the body, contains the seeds.

SEEDS. Four; egg-shaped.

Common
Vulgar

BASIL. The flowers in roundish hairy heads. Floral leaves like bristles—*Blossoms purple. Cultivation will turn them white.*

Clinopodium origano simile. Baub. pin. 224. Ray's Syn. 239,

Acinos. Gerard. 675. seu clinopodium majus. Park. 22,

Great wild Basil.

Hedges and dry Pastures. P. July.

Goats and Sheep eat it; Horses refuse it.

248 BALMLEAF. 731 Melittis.

EMPAL. *Cup* one leaf; bell-shaped; cylindrical; straight. *Mouth* with two lips. *Upper lip* tall; notched; sharp. *Lower lip* shorter; cloven; sharp. *Segments* standing wide.

BLOSS. One petal; gaping. *Tube* much more slender than the cup. *Mouth* but little thicker than the tube. *Upper lip* upright; roundish; flat. *Lower lip* expanding; with three segments; blunt. *Middle segment* large, scolloped.

CHIVES. *Threads* four; the middle ones shorter than the outer ones; awl-shaped; standing under the upper lip. *Tips* blunt; cloven; each pair forming a cross.

POINT. *Seedbud* blunt; with four clefts; covered with soft hairs. *Shaft* thread-shaped; agreeing in length and situation with the chives. *Summit* cloven; sharp.

S. VESS. None. The *cup* unchanged contains the feeds.

SEEDS. Four.

OBS. *The lower lip of the cup is sometimes scolloped.*

BALMLEAF. As there is only one species known Linnæus gives no description of it—*Blossoms on single fruit-stalks, six in each whorl; red, with purple spots, or white with red spots.*

Melissa fuchsii. Gerard. 690. Ray's Syn. 242.

Melissophyllon fuchsii. Park. 41.

Lamium montanum melissæ folio. Baub. pin. 231.

Bastard Balm.

Woods and Hedges. P. June.

Bastard
Melisso phyl-
lum.

249 CALAMINT. 728 Melissa.

EMPAL. *Cup* one leaf; somewhat bell-shaped; dry and skinny; a little expanding; angular; scored; permanent. *Mouth* with two lips. *Upper lip* with three teeth; reflected; expanding; flat. *Lower lip* short; a little sharp; divided.

BLOSS. One petal; gaping. *Tube* cylindrical. *Mouth* open. *Upper lip* short; upright; vaulted; roundish; notched at the end. *Lower lip* with three segments; the *middle segment* largest; and inversely heart-shaped.

CHIVES. *Threads* four; awl-shaped; two as long as the blossom; the other two but half as long. *Tips* small; standing together in pairs.

POINT. *Seedbud* with four clefts. *Shaft* thread-shaped; as long as the blossom; leaning along with the chives under the upper lip of the blossom. *Summit* slender; cloven; reflected.

S. VESS. None. The *cup* unchanged, but enlarging contains the seeds.

SEEDS. Four; egg-shaped.

Common
Calamintha

CALAMINT. The fruit-stalks forked; as long as the leaves; growing at the base of the leaves. *Blossoms bluish white*.
Calamintha vulgaris. *Park.* 36. *Ray's Syn.* 243. *Gerard.* 687.
Calamintha vulgaris, vel officinarum germaniæ. *Bauh. pin.* 228.
Roads and corn-fields. P. August.

Field
Nepeta

CALAMINT. The fruit-stalks forked; longer than the leaves. Growing at the base of the leaves. Stem ascending; hairy. Stems hard.—*The whole plant hairy. Leaves somewhat heart-shaped; smooth on the upper surface. Floral leaves awl-shaped. Blossoms bluish. Palate white with a blue border.*

Calamintha odore pulegii. *Gerard.* 687. *Ray's Syn.* 243.

Calamintha pulegii odore, seu nepeta. *Bauh. pin.* 228.

Calamintha altera odore pulegii, foliis maculosis *Park.* 36.

1. There is a variety with indented leaves.

Road-fides and round corn-fields. P. August.

The Green Tortoise Beetle, *Cassida viridis*, feeds upon it.

Order II. Seeds Covered.

250 BROOMRAPE. 779 Orobanche.

EMPAL. *Cup* one leaf, with two or five clefts; upright; coloured; permanent.

BLOSS. One petal; gaping. *Tube* leaning; large; distended. *Border* expanding. *Upper lip* concave; open; notched at the end. *Lower lip* reflected; with three segments, unequal at the edge. *Segments* nearly equal.

CHIVES. *Threads* four, (two long and two short;) awl-shaped; concealed under the upper lip. *Tips* upright; approaching; shorter than the border.

Honeycup a gland at the base of the seedbud.

POINT. *Seedbud* oblong. *Shaft* simple; agreeing in length and situation with the chives. *Summit* with a shallow cleft; blunt; thick; nodding.

S. VESS. *Capsule* oblong egg-shaped; taper; with one cell and two valves.

SEEDS. Numerous; very small. *Receptacles* four; strap-shaped; lateral; connected.

OBS. *In one species the cup hath five clefts, and each segment of the summit is notched at the end.*

BROOMRAPE. The stem undivided; downy. Chives almost appearing above the blossom—*Blossoms in spikes; purplish straw coloured.* Great Major

Orobanche major garyophyllum olens. Bauh. pin. 87. Ray's Syn. 288.

Rapum genistæ. Gerard. 1311. Park. 229.

1. There is a variety with a smaller flower.

Dry Pastures, amongst Broom. P. May—June.

BROOMRAPE. The stem branched. Blossoms with five clefts—*pale red.* Branched Ramosa

Orobanche ramosa. Bauh. pin. 88. Park. 1363. Ray's Syn. 288.

In corn-fields. June.

251 TOOTHWORT. 743 Lathræa.

EMPAL. *Cup* one leaf; bell-shaped; straight. *Mouth* with four deep clefts.

BLOSS. One petal; gaping. *Tube* longer than the cup. *Border* gaping, distended. *Upper lip* concave; helmet-shaped; broad; with a narrow hooked top. *Lower lip* smaller; reflected; blunt; with three segments.

Honey-cup a gland notched at the end; depressed on each side; very short; situated upon the receptacle of the flower at one corner of the seedbud.

CHIVES. *Threads* four; awl-shaped; as long as the blossom; concealed under the upper lip. *Tips* blunt; depressed; approaching.

POINT. *Seedbud* globular; compressed. *Shaft* thread-shaped; agreeing in length and situation with the chives. *Summit* lopped; nodding.

S. VESS. *Capsule* roundish; blunt; but furnished with a small point; with one cell; and two elastic valves; surrounded by the cup which is large and expanding.

SEEDS. Few; globular.

Scaled
Squamaria

TOOTHWORT. The stem undivided; blossoms pendant. Lower lip with three segments—*Root beaded*. *Root leaves none*. Stem leaves *membranaceous, coloured*. Branches *none*. Lower lip of the blossom *white, the other parts purple*.

Anblatum cordi, seu aphyllon. Ray's Syn. 288.

Orobanche radice dentata major. Bauh. pin. 88.

Orobanche radice dentata, seu dentaria major matthiolo. Gerard. 1322.

Shady places and valleys. P. April—May.

Goats, Sheep and Swine eat it; Cows and Horses refuse it.

252 PAINTEDCUP. 739 Bartfia.

EMPAL. *Cup* one leaf ; tubular ; permanent. *Mouth* blunt, cloven. *Segments* notched at the end ; points coloured.

BLOSS. One petal ; gaping. *Upper lip* upright ; slender ; entire ; long. *Lower lip* reflected ; with three segments ; blunt ; very small.

CHIVES. *Threads* four, (two a little shorter than the other two ;) bristle shaped ; as long as the upper lip. *Tips* oblong ; approaching ; standing under the top of the upper lip.

POINT. *Seedbud* egg-shaped. *Shaft* thread-shaped ; longer than the chives. *Summit* blunt ; nodding.

S. VESS. *Capsule* egg-shaped ; compressed ; taper ; with two cells and two valves ; partition opposite to the valves.

SEEDS. Numerous ; angular ; small.

Obs. *This genus is a sort of connecting link betwixt the RATTLE the EYEBRIGHT and the LOUSEWORT, but it is distinguished by the coloured cup.*

PAINTEDCUP. The upper leaves alternate ; ferrated. Marshy
Flowers distant ; lateral—*Blossoms* solitary, yellow. Viscosa

Euphrasia major lutea latifolia palustris. Ray's Syn. 285.

Marsh Eyebright Cow-wheat.

Boggy wet places in Cornwall. A. August.

PAINTEDCUP. The leaves opposite ; heart-shaped ; Mountain
bluntly ferrated—*Blossoms* in leafy spikes ; purple. Alpina

Clinopodium alpinum hirsutum. Raub. pin. 225.

Euphrasia rubra Westmorlandica, foliis brevibus obtusis. Ray's Syn. 285.

Mountain Eyebright Cow-wheat.

Near rivulets in hilly countries. P. August.

Sheep and Goats eat it.

253 EYEBRIGHT. 741 Euphrasia.

EMPAL. *Cup* one leaf; cylindrical; with four clefts; unequal; permanent.

BLOSS. One petal; gaping. *Tube* as long as the cup. *Upper Lip* concave; notched at the end. *Lower Lip* expanding; divided into three segments which are equal, blunt.

CHIVES. *Threads* four; thread-shaped; leaning under the upper lip. *Tips* two lobed. The lower lobe of the lower tips pointed with a thorn.

POINT. *Seedbud* egg-shaped. *Shaft* threadshaped; agreeing in shape and situation with the chives. *Summit* blunt; entire.

S. VESS. *Capsule* egg-shaped, but oblong; compressed. Cells two.

SEEDS. Numerous; very small; roundish.

Common
Officinalis

EYEBRIGHT. The leaves egg-shaped; streaked; sharply and elegantly toothed—*Blossoms bluish white, with purple streaks.*

Euphrasia. Gerard. 563. Ray's Syn. 284.

Euphrasia vulgaris. Park. 1329.

Euphrasia officinarum. Bauh. pin. 233.

Meadows and pastures. A. August—September.

It is a weak astringent, and was formerly in repute as a remedy for impaired vision. It will not grow but when surrounded by plants taller than itself.—Cows, Horses, Goats and Sheep eat it; Swine refuse it.

Red
Odontites

EYEBRIGHT. The leaves spear shaped; all serrated—*Sometimes reddish; blossoms dusky red; or purple.*

Euphrasia pratensis rubra. Bauh. pin. 234. Ray's Syn. 284.

Euphrasia pratensis rubra major. Park. 1329.

Cratæogonon Euphrosyne. Gerard. 91.

Corn-fields and pastures. A. August—September.

Cows, Horses, Sheep and Goats eat it.

254 RATTLE. . 740 Rhinanthus.

EMPAL. *Cup* one leaf; roundish; bladder-shaped; compressed; with four teeth; permanent.

BLOSS. One petal; gaping. *Tube* somewhat cylindrical, as long as the cup. *Border* open; compressed at the base. *Upper Lip* shaped like a helmet; compressed; notched; narrow. *Lower Lip* open; flat; with three slight segments; blunt; the *middle segment* the broadest.

CHIVES. *Threads* four; (two long and two short;) nearly as long as the upper lip which conceals them. *Tips* fixed sideways to the threads; cloven at one end; hairy.

POINT. *Seedbud* egg-shaped; compressed. *Shaft* thread-shaped; agreeing in situation with the chives, but longer. *Summit* blunt; bent inwards.

S. VESS. *Capsule* blunt; upright; compressed; cells two: Valves two: Partition opposite to the valves: opening at the edges.

SEEDS. Many; compressed.

OBS. *In the first species the edges of the capsule are bordered with a membranaceous margin: the seeds are encompassed by a loose membrane; the cup is equal; with four clefts.*

RATTLE. The upper lip of the blossom compressed and Yellow short—*When the seeds are ripe they rattle in the capsule.* Blossoms *Crista galli* yellow.

Pedicularis, seu crista galli lutea. Bauh. pin. 163.

Crista galli. Gerard. 1071,

1. There is a variety which is much branched, with very narrow leaves, yellow blossoms and purple lips. *Ray's Syn. 284. Cockscorn.*

Meadows and pastures. A. June.—July.

Horses, Goats and Sheep eat it; Cows refuse it.

255 COW-WHEAT. 742 Melampyrum.

EMPAL. *Cup* one leaf, tubular; with four shallow clefts. *Segments* slender; permanent.

BLOSS. One petal; gaping. *Tube* oblong, bent back. *Border* compressed. *Upper Lip* helmet-shaped; compressed; notched at the end; lateral margins bent back. *Lower Lip* flat; upright; as long as the upper lip; with three shallow segments; blunt; marked with two projections in the middle.

CHIVES. *Threads* four, (two long and two short;) awl-shaped; crooked; concealed under the upper lip. *Tips* oblong.

POINT. *Seedbud* tapering. *Shaft* simple; agreeing in length and situation with the chives. *Summit* blunt.

S.VESS. *Capsule* oblong; oblique; taper; compressed; the upper edge convex, the lower edge straight. Cells two. Valves two. *Partition* placed in a contrary direction to the valves. Opening at the upper seam.

SEEDS. Two; egg-shaped; hunched; enlarged at the base.

Crested
Cristatum

COW-WHEAT. The flowers in quadrangular spikes. Floral leaves heart-shaped; firm; tiled; with little teeth—*Blossoms* generally yellow but sometimes white or purplish.

Melampyrum cristatum flore albo et purpureo. Ray's Syn. 286.

Melampyrum luteum angustifolium. Baub. pin. 234.

In woods. A. July.

Cows, Goats and Sheep eat it.

Purple
Arvense

COW-WHEAT. The flowers in flexible conical spikes. Floral leaves with bristle-shaped teeth; coloured—*Blossoms* yellow and dusky purple.

Melampyrum purpurascens coma. Baub. pin. 234. Ray's Syn. 286.

Corn-fields. A. July.

The seeds when ground with corn, give a bitterness and greyish cast to the bread, but do not make it unwholesome.

Cows and Goats eat it; Sheep refuse it.

COW-WHEAT. The flowers in spikes pointing all one way. Meadow Leaves in distant pairs. Blossoms closed—*White; with yellow spots on the lower lip.* *Pratense*

Melampyrum latifolium flore albo; labio inferiore duabus maculis luteis distincto. *Ray's Syn.* 286.

Meadows and woods. A July—August.

Where this plant abounds, the butter is yellow, and uncommonly good—Swine are very fond of the seeds.

Sheep and Goats eat it; Cows are very fond of it; Horses and Swine refuse it.

COW-WHEAT. The flowers in spikes pointing all one way. Yellow Leaves in distant pairs. Blossoms gaping—*The blossoms in this are only half as long as those in the preceding species and are entirely yellow, tube and all.* *Sylvaticum*

Melampyrum sylvaticum flore luteo, five fatureja lutea sylvestris. *Ray's Syn.* 286.

Melampyrum luteum latifolium. *Bauh. pin.* 234.

Cratægonon album. *Gerard.* 91.

Cratægonon vulgare. *Park.* 1326.

In woods A. June—August,

Cows, Sheep and Goats eat it; and with a plentiful allowance of it soon grow fat.

256 MUDWEED. 776 Limosella.

EMBAL. Cup one leaf; with five shallow clefts; sharp; upright; permanent.

BLOSS. One petal; bell-shaped; upright; equal; with five shallow clefts; sharp; small. Segments expanding.

CHIVES. Threads four; upright; two leaning to the same side. shorter than the blossom. Tips simple.

POINT. Seedbud oblong; blunt. Shaft simple; as long as the chives; declining. Summit globular.

S.VESS. Capsule egg-shaped; half inclosed in the cup; with one cell and two valves.

SEEDS. Many; oval. Receptacle egg-shaped; very large.

MUDWEED. As there is only one species known, Linnæus Plantain gives no description of it—*Stems trailing.* Leaves *spear shaped; on very long leaf-stalks.* Blossoms *solitary; white on the outside; red-dish within.* *Aquatica*

Plantaginella palustris. *Bauh. pin.* 190. *Ray's Syn.* 278.

Bastard Plantain.

In places that are liable to be flooded. P. August—September.

257 FIGWORT. 756 Scrophularia.

EMPAL. *Cup* one leaf; with five clefts; permanent. *Segments* rounded, shorter than the blossom.

BLOSS. One petal; unequal. *Tube* globular; large; bladder-shaped. *Border* very small; with five divisions. The two *Upper Segments* larger than the others; upright: two *Lateral Segments* open. *Lower Segment* reflected.

CHIVES. *Threads* four; strap-shaped; declining; as long as the blossoms; two of them ripening later than the other two. *Tips* double.

POINT. *Seedbud* egg-shaped. *Shaft* simple; agreeing in length and situation with the chives. *Summit* simple.

S.VESS. *Capsule* roundish; tapering; cells two; valves two; partition formed by the edges of the valves turning in: opening at the top.

SEEDS. Many; small. *Receptacle* single; roundish; extending itself into each cell.

OBS. *In the mouth of the blossom, beneath the upper segment; lies another little segment resembling a lip; but this is not common to every species.*

Knobby-rooted
Nodosa

FIGWORT. The leaves three fibred; heart-shaped. Corners of the stem not membranaceous—*Root knotty*. Blossoms greenish purple; terminating.

Scrophularia major, Gerard. 715. Ray's Syn. 283.

Scrophularia vulgaris. Park. 610.

Scrophularia nodosa fætida. Baub. pin. 235.

Kernelwort.

Woods and moist hedges. P. July.

This plant is hardly known in modern practice; but the rank smell, and bitter taste of the leaves, seem to indicate some active properties.—Swine that have the scab are cured by washing them with a decoction of the leaves.—Wasps resort greatly to the flowers.

Goats eat it; Cows, Horses, Sheep and Swine refuse it.

Water
Aquatica

FIGWORT. The leaves heart-shaped; blunt; on leaf-stalks, which run along the stem. Flowers in bunches; terminal. Stem angular, membranaceous at the corners—*Blossoms purple*.

Scrophularia aquatica major. Baub. pin. 235. Ray's Syn. 283.

Betonica aquatica. Gerard. 715. major. Park. 613.

Water-betony.

In watery places. P. July.

FIGWORT. The leaves heart-shaped; doubly serrated. Balm-leaved. Flowers in compound bunches, with leaves interspersed.—*Stem* Scorodonia very hairy. Blossoms dusky purple.

Scrophularia Scorodonæ folio. Ray's Syn. 283.

Hedges and rivulets. P. August.

FIGWORT. The leaves heart-shaped. Fruit-stalks solitary; Yellow forked; growing within the base of the leaves—*Blossoms* yellow. Vernalis. *Scrophularia flore luteo.* Gerard. 717. Baub. pin. 236. Park.

610.

Hedges. B. April—May.

The different species of Figwort, afford nourishment to the Water Betony Moth, *Phalæna Verbasci*, the Figwort Weevil, *Curculio Scrophulariæ*, and the *Tenthredo Scrophulariæ*.

258 COUNTERWORT. 775 Sibthorpia.

EMPAL. Cup one leaf; turban-shaped; with five divisions; expanding. Little leaves egg-shaped; permanent.

BLOSS. One petal; with five divisions; expanding; equal; as long as the cup. Segments rounded.

CHIVES. Threads four; hair-like; two of them approaching. Tips heart-shaped, but oblong.

POINT. Seedbud roundish; compressed. Shaft cylindrical; thicker than the threads; as long as the blossom. Summit a simple knob, depressed.

S. VESS. Capsule compressed; round and flat; swelling out in two places; edges sharp; valves two; cells two; partition transverse.

SEEDS. Several; oblong; somewhat roundish; convex on one side; flat on the other.

COUNTERWORT. The leaves somewhat kidney-shaped; Bastard scolloped; with leaf-stalks nearly central—*Stem* thread-shaped; Europæa creeping; but little branched. Leaves alternate; very remote; with a few hairs at the edges. Flowers on fruit-stalks; solitary; arising from the base of the leaves. Fruit-stalk generally shorter than the leaf-stalks, with a somewhat egg-shaped floral leaf near the end. Blossoms pale red.

Did not this plant originate from the seedbud of the alternate leaved Saxifrage fertilized by the dust of the Marsh Penny-wort?

Alfine spuria pusilla repens foliis saxifragæ aureæ. Ray's Syn. 352.

Bastard Money-wort.

Rivulets and springs. P. August.

259 FOXGLOVE. 758 Digitalis.

EMPAL. *Cup* with five divisions. *Segments* roundish; sharp; permanent. The upper segment narrower than the rest.

BLOSS. One petal: bell-shaped. *Tube* large; expanding; distended on the underside; cylindrical and slender at the base. *Border* small; with four clefts. *Upper Segment* the most expanded; notched at the end. *Lower Segment* largest.

CHIVES. *Threads* four, (two long and two short;) awl-shaped; fixed to the base of the blossom; declining. *Tips* cloven; tapering to a point at one end.

POINT. *Seedbud* taper. *Shaft* simple; standing along with the chives. *Summit* sharp.

S. VESS. *Capsule* egg-shaped; as long as the cup; taper; cells two; valves two; opening in two directions.

SEEDS. Many; small.

OBS. *In the only British species the blossom is rather tubular than bell-shaped, and the upper segment is notched at the end.*

Common
Purpurea

FOXGLOVE. The leaves of the cup egg-shaped; sharp. Blossoms blunt; upper lip entire—*Flowers in long terminating spikes, all pointing one way.* Blossom purple; elegantly mottled on the inside.

Digitalis purpurea. Gerard. 790. Ray's Syn. 283.

Digitalis purpurea, folio aspero. Baub. pin. 243.

Digitalis purpurea vulgaris. Park. 1653.

1. There is a variety with a white blossom. Baub. pin. 243.
Purple Fox-glove.

Gravelly soil. B. July.

A dram of it taken inwardly excites violent vomiting. It is certainly a very active medicine, and merits more attention than modern practice bestows upon it.

260 TOADFLAX. 750 Antirrhinum.

EMPAL. *Cup* with five divisions; permanent. *Segments* oblong; permanent. *Two lower Segments* more expanding.

BLOSS. One petal; gaping. *Tube* oblong; hunched. *Border* with two lips. *Upper Lip* cloven; reflected side-ways. *Lower Lip* with three segments, blunt. *Palate* convex; mouth closed by a projection of the lower lip, which is channelled on the under side.

Honey-cup extending backwards from the base of the blossom.

CHIVES. *Threads* four; (two short and two long;) nearly as long as the blossom and inclosed by the upper lip. *Tips* approaching.

POINT. *Seedbud* roundish. *Shaft* simple; agreeing in length and situation with the chives. *Summit* blunt.

S. VESS. *Capsule* roundish; blunt; cells two. *Figure* and manner of opening different in different species.

SEEDS. Many; *Receptacles* kidney-shaped; solitary; fixed to the partition.

Obs. *The Honey-cup and the Seed-vessel differ greatly in the different species. In some the former is long and awl-shaped, and the latter opens equally. In others the honey-cup is blunt, scarcely protuberating; the capsule is unequal at the base; opening at the top obliquely; and in others again still different.*

* *Leaves angular.*

TOADFLAX. The leaves alternate; heart-shaped; with Ivy-leaved five lobes. Stems trailing.—*Is not this plant produced by the dust of Cymbalaria the Ivy-leaved Bell-flower fertilizing the seedbud of the Fluellin Toad-flax? Spur of the honey-cup slender; crooked; purple. Blossoms purple and yellow.*

Linaria hederaceo folio glabro, seu Cymbalaria. Ray's Syn.
282.

Cymbalaria. Bauh. pin. 306.

1. There is a variety with woolly leaves,
On old walls. P. June—October.

Fluellin
Elatine

TOADFLAX. The leaves halberd-shaped; alternate. Stems trailing—*Blossoms yellow and purple; or blue.*

Linaria Elatine dicta, folio acuminato. Ray's Syn. 282.

Elatine folio acuminato, in basi auriculato, flore luteo. Baub. pin. 253.

Elatine folio acuminato. Park. 553.

Elatine altera. Gerard. 623.

Sharp-pointed Fluellin.

Corn-fields. A. August—October.

This is considerably more bitter than the other species, and is said to have been used successfully in cases of foul Ulcers and in cutaneous eruptions.

Round-leaved
Spurium

TOADFLAX. The leaves egg-shaped; alternate. Stems trailing—*It is highly probable that this plant originated from the dust of the Fluellin Toad-flax fertilizing the seedbud of the Ivy-leaved Toad-flax. Blossoms yellow and purple.*

Linaria Elatine dicta folio subrotundo. Ray's Syn. 282.

Elatine folio subrotundo. Baub. pin. 252. Park. 553.

Veronica fœmina Fuchsi, seu Elatine. Gerard. 625.

Round-leaved Fluellin.

Corn-fields. A. August.

* * *Leaves opposite.*

Creeping
Repens

TOADFLAX. The leaves strap-shaped; crowded together. Lower leaves growing by fours. Cups as long as the Capsules—*Not odoriferous. Blossoms purple and yellow. Spur of the honey-cup, long and pointed.*

In hedges in Cornwall. P. August.

Sweet-smelling
Monspeffulana

TOADFLAX. The leaves strap-shaped; crowded together. Stem and fruit stalks shining. Flowers in spiked panicles—*The spur of the blossom straight and very short: odoriferous. Blossoms blue.*

Linaria odorata monspeffulana. Ray's Syn. 282.

Linaria capillaceo folio odora. Baub. pin. 213.

Corn-fields. P. July—August.

TOAD-

TOADFLAX. The leaves nearly strap-shaped : lower leaves Corn growing by fours. Cups hairy and clammy. Flowers in spikes. Arvense Stem upright—*Blossoms blue*.

The varieties are : 1. Dwarf fleshy-leaved yellow. 2. Violet. 3. Four-leaved yellow.

Linaria arvensis cærulea. *Baub. pin.* 213.

Linaria cærulea foliis brevioribus et angustioribus. *Ray's Syn.* 282.

Corn blue Toad-flax.

Dry Corn-fields. A. July—August.

* * * *Leaves alternate*.

TOADFLAX. The leaves for the most part alternate ; spear- Least shaped ; blunt. Stem much branched ; spreading—*Blossoms pur-* Minus *ple and yellowish white ; with a very short spur*.

Antirrhinum arvense minus. *Fauh. pin.* 212.

Antirrhinum minimum repens. *Gerard.* 549.

Antirrhinum sylvestre minimum. *Park.* 1334.

Linaria Antirrhinum dicta. *Ray's Syn.* 283.

Gravelly corn-fields. A. June—October.

Cows and Sheep eat it ; Swine are not fond of it ; Horses and Goats refuse it.

TOADFLAX. The leaves betwixt spear and strap-shaped ; Common crowded together. Stem upright. Flowers tiled, in sitting ter- *Linaria* minating spikes—*Spur long and crooked*. Blossom yellow and orange ; sometimes whitish.

Linaria lutea vulgaris. *Gerard.* 550. *Ray's Syn.* 281.

Linaria vulgaris nostras. *Park.* 458.

Linaria vulgaris lutea, flore majore. *Baub. pin.* 212.

Common yellow Toad-flax.

In barren ground and road-sides. P. July.

Cows, Horses and Swine refuse it ; Sheep and goats are not fond it.

1. PELORIA. This extraordinary variety seems to have originated from an impregnation of the seed-bud of the *Common* TOADFLAX, by the dust from the tips of some other plant : perhaps from one of the GENTIANs. If it had produced seeds capable of vegetation, it would have constituted a new genus, as is evident from the following description.

PELORIA.

TWO CHIVES LONGER.

P E L O R I A.

Cup one leaf; with five divisions; equal; very short; permanent.

Bloss. one petal; funnel-shaped: with five honey-cups at the base.

Tube long; straight; cylindrical, but distended from the middle downwards.

Border with five divisions; blunt; equal; expanding.

Honey-cups five, awl-shaped; flat; resembling a horn; growing in a circle round the base of the tube.

Chives. *Threads* five; hair-like; equal; half as long as the tube and fixed to the receptacle. *Tips* roundish; fixed side-ways to the threads.

Point. *Seedbud* egg-shaped; *Shaft* thread-shaped; as long as the chives. *Summit* thick and blunt.

S. Veff. *Capsule* egg-shaped; with two cells and two valves.

Receptacles convex; growing to the partition.

Seeds. Several; angular.

Obs. *Stem* simple; upright; cylindrical: sometimes, though rarely, furnished with one or two branches. *Leaves* numerous; scattered; strap-shaped; smooth; upright but expanding. *Flowers* in a spike, terminating; nine, twelve or eighteen together. *Blossoms* yellow; paler towards the base; the inner side filled with tawney hairs.

In sandy fields near Clapham in the county of Surry. P. July.

It hath the same taste and smell that the Common TOADFLAX possesses, among which it is found to grow. The seeds are barren, but it may be propagated by roots. *Amenitates Academicæ* vol. 1. p. 282. tab. 3.

An infusion of the leaves of the Common Toad-flax is diuretic and purgative. An ointment prepared from them gives relief in the Piles. The expressed juice mixed with milk is a poison to Flies, as is likewise the smell of the flowers.

**** Blossom

**** Blossoms gaping; or without a spur.

TOADFLAX. The blossoms without a spur, forming spikes. Snap-dragon
Cups roundish.—*Leaves on leaf-stalks.* Blossoms purple. Majus

Cultivation or accident hath produced the following varieties.

1. Long-leaved purple and white.
2. Reddish and white.
3. Red and white.
4. Yellow and white.
5. Yellow

Antirrhinum majus alterum, folio longiore. Bauh. pin. 211.

Antirrhinum purpureum. Gerard. 549.

Greater Snap-dragon.

On old walls and chalky cliffs. P. June.

TOADFLAX. The blossoms without spurs, forming a fort Snout
of spike. Cups longer than the blossoms—*The capsule when Orontium*
open resembles the skull of a monkey. Blossom purple; with a little
yellow.

Antirrhinum angustifolium sylvestre. Ray's Syn. 283.

Antirrhinum arvense majus. Bauh. pin. 212.

Antirrhinum sylvestre medium. Park. 1334.

Antirrhinum minus. Gerard. 549.

Last Snap-dragon. Calfs-snout.

Corn-fields. A. July—August.

This plant is poisonous.

Bayerische
Staatsbibliothek
München

TWO CHIVES LONGER.

261 LOUSEWORT. 746 Pedicularis

EMPAL. *Cup* one leaf; roundish; distended. *Mouth* with five clefts; equal; permanent.

BLOSS. One petal; gaping. *Tube* oblong; hunched. *Upper Lip* helmet-shaped; upright; compressed; narrow; notched. *Lower Lip* expanding; flat; with three shallow segments; blunt. *Middle Segment* the narrowest.

CHIVES. *Threads* four; (two long and two short;) nearly as long as the upper lip under which they lie concealed. *Tips* fixed side-ways to the threads: roundish; compressed.

POINT. *Seedbud* roundish. *Shaft* thread-shaped; agreeing in situation with the chives, but longer. *Summit* blunt; bent inwards.

S. VESS. *Capsule* roundish; tapering; oblique. Cells two. Partition opposite to the valves; opening at the top.

SEEDS. Many; roundish; compressed; covered with a coat. *Receptacles* oblong, supported by foot-stalks.

OBS. *The Capsule is for the most part oblique. In some species the Cup is cloven at the rim into two parts.*

Marsh
Palustris

LOUSEWORT. The stem branched; cups beset with callous points. Lips of the blossom oblique—*Blossoms purple.*

Pedicularis palustris rubra elatior. Ray's Syn. 284.

Wet meadows. A. June.

This is an unwelcome guest in meadows, being very disagreeable to cattle.

Goats eat it; Horses, Sheep and Cows refuse it; Swine are not fond of it.

LOUSE-

LOUSEWORT. The stem branched; cups oblong; angular; Common smooth. Lip of the blossom heart-shaped—*Blossoms purple.* Sylvatica

Pedicularis. Gerard. 1071. pratensis purpurea. Baub. pin. 163.

Pedicularis pratensis rubra vulgaris. Park. 713. Ray's Syn. 284.

Wet heaths and pastures. P. May—June.

The expressed juice, or a decoction of this plant hath been used with advantage as an injection for sinuous Ulcers—If the healthiest flock of sheep are fed with it, they become scabby and scurfy in a short time; the wool gets loose, and they will be over-run with vermin.

Cows and Swine refuse it.

The End of the First Volume.

Withering, William, 1741-1799

A Botanical Arrangement Of All The Vegetables Naturally Growing in Great Britain With Descriptions Of The Genera and Species, According to the System of the celebrated Linnaeus ; Being an Attempt to render them familiar to those who are unacquainted with the Learned Languages ; Under each Species are added The most remarkable Varieties, the Natural Places
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